

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

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BALTIMORE, SEPTEMBER 16, 1909.

PEARY'S NEGRO.

The attempt to interject a discussion of the negro question will not have the expected effect of diverting intelligence from the vital matter in which American decency has been interested ever since Peary emerged from the Polar regions hot upon the trail of Cook.

THE SOUTH NO DUMP.

Whatever view may be held as to the Farmers' Union convention at Birmingham last week, no intelligent man will take issue with the convention's resolution calling for the abolition of the division of information in the National Bureau of Immigration and against the germane effort to turn the South into a dump for the human refuse which immigration has congested in New York and other great cities.

AMERICAN COTTON.

In his interesting review of the American cotton crop for the commercial year ended August 31, 1909, the bulk of which is published on other pages of this issue of the MANUFACTURERS' RECORD, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, points out that American cotton mills consumed during the year 5,210,000 bales of cotton, of which 150,000 bales were imported. Of the 5,060,000 bales of American cotton consumed, Southern mills consumed in round numbers 2,560,000 bales, an increase over the preceding year of 367,000 bales, and the mills in the rest of the country consumed 2,500,000 bales, an increase of 522,000 bales. Of the American crop 8,097,000 bales went to foreign countries, an increase of 151,000

bales. The developments in this particular during the past 10 years are indicated in the following table, showing the number of bales of American cotton taken by Northern mills and the number consumed by Southern mills:

Year ended Aug. 31.	Northern mills.	Southern mills.	Total.
1900.....	2,068,300	1,507,112	3,565,412
1901.....	1,967,570	1,620,931	3,588,501
1902.....	2,050,774	1,937,971	3,988,745
1903.....	1,967,635	2,000,729	3,968,364
1904.....	2,026,367	1,919,252	3,945,619
1905.....	2,282,145	2,163,505	4,445,650
1906.....	2,349,478	2,374,225	4,723,703
1907.....	2,526,330	2,439,108	4,965,438
1908.....	1,896,661	2,193,277	4,089,938
1909.....	2,680,118	2,559,873	5,239,991

OUR GOOD ROADS CONTEST.

Referring to our efforts to further the work of highway improvement in the South, *The Sun* of Durham, N. C., says:

The MANUFACTURERS' RECORD of Baltimore is doing more, perhaps, than any other journal we know of—in a practical way—to stimulate the movement for good-road building, especially throughout the South. It is certainly more than we have seen any other journal of its class do. Its object is the development and advancement of this Southland of ours, and in this interestedness it deserves the commendation of our people of every line of business. It offers a cash prize of \$400 for the three best articles suggesting the most effective plan for giving the South a system of public highways suited to its needs, and the influence of roads upon the material prosperity and social conditions of the South. It ought to bear good fruit, and we commend the MANUFACTURERS' RECORD for its splendid work in this line. The article must be in the office by the 20th of this month.

But four days remain in which manuscripts in this competition may be received. The number which have already reached us and the postmarks upon their envelopes reveal the wide interest in the question of good roads and promise interesting results. The generous co-operation of newspapers of the character of the *Durham Sun* in spreading information of the prize offer is emphatic evidence of the substantial and practical backing of the interest in good roads.

As soon as possible after the last manuscript in the competition has been received on September 20 the task of reading all the manuscripts and selecting three prize-winners will begin, and announcement of the awards will be made early in October.

The response to our prize offer has been exceedingly gratifying, and we hope that the publication of the three prize articles will be influential in increasing the enthusiasm for good roads in the South.

INCREASING ACTIVITY IN IRON AND STEEL.

There are many signs pointing to a period of great activity in the construction of new iron and steel enterprises, in the development of ore properties, and in the building of plants to turn out finished products of iron and steel. It is quite probable that in the period of activity upon which we have entered the iron trade of the country will make a greater advance than at any time during the rush which ended with the panic

of 1907. Many enterprises are being financed and broad plans for great development work are under way. There is an increasing demand for good coal and ore lands, and the outlook promises a very great prosperity to all identified with iron and steel and coal in all their forms.

As pointed out in the MANUFACTURERS' RECORD several years ago, there are destined to be three great centers of iron and steel production in this country. One, the Lake region, dependent on Lake ores; one, the Alabama district, with its unequalled advantages for the assembling of ore and coke and limestone, and the other the Atlantic seaboard somewhere in the neighborhood of the Chesapeake Bay or the Delaware River. It seems that the Chesapeake Bay, with its splendid facilities for the concentration of foreign ores and the coking coals of the Virginias and Kentucky, will inevitably attract the attention of capitalists as a location for great steel works. In fact, careful and favorable investigations were made a year or two ago, and possibly are now being made with a view to carrying out enterprises of this kind. The Pennsylvania Steel Co., dominated in ownership by the Pennsylvania Railroad, with its 600,000,000 tons of Cuban ore, must, in order to utilize so large a supply of raw material, increase its furnace capacity. Whether this will be done at Steelton or Sparrows Point, or whether it will result in the building of a new plant somewhere in the Hampton Roads section, or whether all three of these things will be done, remains for the future to disclose. The Bethlehem Steel Co., likewise owning a large supply of foreign ores and a big shipbuilding plant at Wilmington, may undertake to carry out the intimation given by Mr. Schwab last year of building iron and steel works at that point. The United States Steel Corporation has a very strong strategic position in the Lake region and in the Alabama district, but it has no plant on the seaboard. It is not at all impossible but that the logic of the situation may also tempt the Steel Corporation to consider the advantages of being on the seaboard, though the Birmingham location gives to the Steel Corporation a very great advantage in having a plant located at the cheapest point of iron and steel production in this country. With the development of that plant, which is certain to go on as rapidly as the increasing market tributary to it justifies, the Birmingham region is destined to realize what its friends have predicted for it as one of the really great iron and steel centers of the world.

The whole situation is one of great interest. The revival in the demand for iron and steel, the increased orders which are being given for railroad equipment, the rush of work which is already overtaking many of the plants making finished steel products, all indicate that we have entered upon a movement which will bring far-reaching prosperity to the iron trade.

RECLAIMING SOUTHERN WET LANDS.

In a recent issue we discussed the work of authorities in North Carolina toward the reclamation of wet lands in the eastern part of that State and their plans for a general campaign of reclamation. Details of some of the work being done in that State under the auspices of individuals may be of interest. Some months ago we referred to the big reclamation work of J. A. Wilkinson of Belhaven, and now Mr. Wilkinson advises us that he and his brother are getting along finely with the development of their 25,000 acres of swamp land. They have 22 miles of canal cut, and are still cutting at the rate of more than two miles a month with their two dredges. The canals are cut one mile apart and are laid off in mile sections of 640 acres each, and good roads have been built on the banks of the canals. A large force of men is at work clearing two square miles of this reclaimed land, which is expected to be in cultivation next year. Mr. Wilkinson reports that the Norfolk & Southern Railway has a large body of the same kind of land adjoining his lands and is now planning for the development of the tract upon a large scale.

Belhaven is in Beaufort county. Not far distant is Wilson county, and in that county lies Toisnot Swamp, now under development. About two years ago the land-owners applied to the national Department of Agriculture for information through the office of drainage investigations as to the cost and methods of drainage of the swamp. The survey was made by Dr. H. A. Kipp, and later the Toisnot Drainage Co. was formed by the various land-owners of the upper eight miles of the swamp, with Messrs. Walter Woodard, president; J. B. Farmer, secretary and treasurer, and J. Ed. Woodard, Henry B. Lane and William Woodard, Jr., drainage commissioners. The capital stock of the company was placed at 10 per cent. of the estimated cost of the work, or approximately \$2000. In February, 1908, the contract for the construction of the ditch was let to Mr. Lawrence Brett, contracting drainage engineer, who expects to complete it some time next February. The ditch varies in width from 25 feet for the upper four miles to 30 feet for the next three miles to 36 feet for the last mile, and the depth averages seven and a half feet, being governed by the grade line, which will give a fall of three feet to the mile. The contractor is paid monthly by the land-owners as the work progresses through their lands, and 10 per cent. of the estimate is withheld each month to be paid in a lump sum upon the completion of the work. Mr. Brett informs the MANUFACTURERS' RECORD that about 2000 acres of land which is now worthless will be made fit, at a cost per acre of approximately \$12 for the cultivation of corn or of any crop that does well on a black soil. He adds that a little more than one-fourth of the ditch has been completed, and that

the lands at the upper end of the swamp are now well drained, showing conclusively that the work will be a success.

These two projects are in the portion of North Carolina where within 28 counties there are about 4505 square miles of wet lands, of which a great portion are susceptible to commercial reclamation. The work already under way is indicative of the growing realization in the South of the importance of bringing such fertile tracts into a cultivable state. The feeling is not confined to the South. In this week's issue of the MANUFACTURERS' RECORD is an article by E. R. Ulrich, Jr., a business man of Springfield, Ill., who is in a position to compare drainage work in Illinois, a pioneer in that field, with drainage work in Louisiana, where there is great activity on that line and where 10,000 square miles may thus be brought to the plow. Mr. Ulrich tells of a tract of 1150 acres of land skirting the Sangamon River in Illinois, which was bought 23 or 24 years ago for \$11 an acre and protected on all four sides by levees built at a cost of \$15,000. This land, he says, has raised about 20 out of 21 crops of more grain per acre than the higher land adjoining it, which is worth probably from \$150 to \$200 an acre, and the drainage work costs not more than 25 cents an acre per year. Mr. Ulrich has recently visited the lowlands in the neighborhood of Grand Chenier, on the east bank of the Mermentau, in Louisiana, and in his article he describes the variety and luxuriance of the crops raised in that vicinity. He says that in his opinion any of the swamp land thereabouts can be developed with dredges and made a cheaper and far safer proposition in bodies of 1500 to 2500 acres, and with a money-producing value per acre far greater than the reclaimed land in Illinois which he describes.

That conviction will grow upon perusal of a pamphlet full of information about the prairie marshes and cypress swamp lands of Louisiana and how they are being reclaimed, which has just been published by Capt. J. F. Merry, general immigration agent of the Illinois Central Railroad, Manchester, Iowa. He is making a special effort to combine Louisiana land reclamation with his long and successfully maintained work of directing immigrants from the West and Northwest to the States of the Lower Mississippi Valley. His efforts are significant of the attention being given to the question.

SHALL RAILROAD RATES BE ADVANCED?

Mr. C. C. McCain, chairman of the Trunk Line Association, New York, has presented an interesting argument for the establishment of higher railroad rates, in a booklet entitled "The Diminished Purchasing Power of Railway Earnings," with the subtitle "Suggestions Concerning the Necessity of an Adjustment of Railway Rates to Meet New Industrial Conditions and the Increased Cost of Improved and Additional Transportation Facilities." In the study of the subject and in announcing his conclusions, Mr. McCain takes for consideration the 10-year period between 1897 and 1907. He notes the increases during that time in wages of railway labor, in the prices of railway materials and supplies and in prices of commodities carried by the railroads, and also that railway rates have not been adjusted accordingly. In other words, he points out that the increased cost of all these things is equivalent to a decrease in the value of money which

the railroad companies lay out for what they need to conduct their business. In support of this contention he says that a 15-ton carload of fourth-class freight carried all-rail between Chicago and New York at any time during the year 1897 would have brought the railways transporting it \$105 in gross receipts. With reference to this, he says there has been no change in the class rates between Chicago and New York since 1897, and the same quantity of freight, classified in the same way, produces the same gross receipts now that it did in 1897; also, that the rates between those cities are the basis of all rates north of the Potomac, the James and the Ohio Rivers, and east of the Mississippi, and also of a large proportion of rates applying to traffic originating at or destined to any point in that region.

The writer demonstrates by figures and other data how wages of railroad employes have increased, and also how the cost of locomotive fuel and practically all supplies required by railroads have advanced during the 10 year period. He also says that no dollar earned by the railway will now pay for more than 84 per cent., on the average, of as much railway labor as it would in 1897, and he concludes that to offset this a change in railway rates amounting to an apparent advance of 19.43 per cent. would be necessary. Among the items of increase he notes that railway taxation per mile of line has increased 50 per cent., and that the regulation of railroads by law has also imposed upon them many additional expenses for the publication of rates and statistics, besides other expenses for employes, special equipment, etc. The cost of obtaining new capital for railroads has also advanced. Upon this latter point he presents a table showing the different rates of interest and the different amounts of capital secured at each rate in every year under consideration.

Considering Mr. McCain's contention, without going deeply into details, it may be remarked that the claim that railroads should charge higher rates for freight, if not for passengers, has been made before and along similar lines, although not perhaps supported by the minute details in the way of figures, which are presented by him, and he further contends that, in view of the increased prices obtained for practically all kinds of products and manufactures, such things are able to bear an advance in the cost of transportation; also, that wage-earners could afford to pay higher rates because of their increased income. This argument is especially made with respect to skilled labor, it being pointed out that if the earnings of a particular wage-earner have increased from 50 cents to 72 cents per hour, a railway service is cheaper to him if it costs 12 cents than it was at 10 cents when his earnings were on the 50-cent basis, because he produces with 10 minutes' toil what formerly required 12 minutes. With reference to this point he calls attention to a lengthy table prepared from Government data and showing the increase in average wages in the various trades before 1897 and 1907. This is only one of several tables to which he directs attention.

Anyone who has considered the railroad situation within the last few years, noting the increased cost of conducting transportation and the advances in the prices of equipment and materials, must have reached the conclusion that the time would come when the railroads might be expected to demand an advance in the cost of their services to the

public, yet no matter how equitable it may appear that the railroad should receive higher rates, the problem of increasing them without arousing tremendous opposition on every side is one of the most perplexing, if not the most difficult, that the transportation companies have had to solve. The cutting off of free passenger transportation from a considerable number of persons, which was accomplished by the passage of the Hepburn act, was the first important step taken by the roads to secure greater revenue from their passenger service, and now they are looking toward securing an advance of freight rates commensurate with their increased expenses.

It cannot fairly be denied that the railroads have some justice on their side in this argument. Considered in their entirety and especially as compared with rates in Europe, the freight tariffs of American railroads are remarkably low, while the character of the service performed is in practically all cases the best. To keep these rates low the railroad companies, particularly of late years, have added to their equipment cars of much greater capacity than any before employed, and also engines of far greater hauling power. This example of making big trains in freight service has been followed by foreign roads with success, although not generally to the extent prevailing in this country. It now appears that our lines are presenting their condition before the public for its careful opinion as to whether they are not entitled, in view of the facts cited, to make some advance in freight charges.

It is undeniable that in many cases railroad rates are too high. The great difficulty has been one of adjustment in order to avoid giving one community a more favorable rate than some competing place. If it were possible for railroads to work out a system of freight rates that would be fair and equitable to all communities and to all shippers, there would be much less hostility to an advance in rates than now exists. There would be no justification for higher freight rates were it not for the need of a vast improvement in transportation facilities and for the building of many lines of new road, the capital for which cannot be had unless existing roads are sufficiently profitable to draw a great rush of money into railroad investments. We need to spend on railroad building in this country a sum so vast as to be beyond comprehension. Certainly a minimum of \$5,000,000,000 or \$6,000,000,000 is needed for immediate extension and improvement of railroad facilities, and before this could be expended as much more would be needed to keep up with the growth of the country. How can so vast a sum be secured? It is not a question that primarily concerns the railroads. The people themselves are more interested in it than railroad managers and railroad owners. Without enlarged transportation facilities the business of the country would halt and every business interest would suffer. The shortsighted policy of many railroads in dealing with the public and the impression that has existed in the minds of many railroad people that the public has no rights which they are bound to respect, is largely responsible for the hostility which has existed against railroads and which makes it difficult to secure the needed capital for railroad expansion.

The situation as presented by Mr. McCain in his pamphlet is interesting and deserves careful study, but, until all railroads deal with the fairness to

the public that some of them show, railroads generally will find it difficult to win approval of any advance in rates, however meritorious the argument may be on its face.

ANTICS OF THE SOUTHERN COMMERCIAL CONGRESS GHOST.

The ghost of the Southern Commercial Congress has begun to walk again in Baltimore at an unpropitious time. For the attention of citizens is divided, in spare moments from business, between piping natural gas from West Virginia and the visits of the Winski collecting funds for political campaign purposes. It may be, though, that the ghost of the Southern Commercial Congress, eager to be the tail-piece to any project temporarily attracting public gaze, is under the impression that Baltimoreans are so committed already to the natural gas habit that they are willing to pay for natural human gas, belched from Washington, or that they have remarkably short memories. The ghost probably presumes that Baltimore business men have forgotten its little financial undertaking submitted to them nine or ten months ago, when they were blandly invited to fill out a draft for \$250 to be paid for the account of a body that was to be an "unincorporated, voluntary association," and to fill out at the same time three promissory notes for \$250 each, bearing 4 per cent. interest from date, to be paid for the account of the same unincorporated association. It was expected by the ghost that a million dollars would thus be acquired for the endowment of a "Southern Architectural Monument" at Washington. The printed instructions accompanying the blank drafts and notes spoke of headquarters that "will be established," of a social organization "proposed to be formed," and of certificates of membership which "will be ultimately delivered" in exchange for the receipt of the draft and the three notes.

Of course there were not a thousand men in the South each willing to let one thousand dollars go into that million-dollar dream. But the natural-gas supply at the command of the ghost of the Southern Commercial Congress differs from all other natural-gas supplies in that it is inexhaustible, and if it does not go with one kind of mantle, it is tried with another kind. It would be a waste of valuable space to recapitulate at this time the various methods that have been employed during the past nine or ten months to make this particular natural-gas supply a going proposition. It may suffice to quote from its latest. Bearing upon the proposition "to organize in Baltimore a branch of the Southern Commercial Congress, to act as a chamber of commerce for the entire South," it is stated that a number of men [unnamed] prominent in financial and commercial circles have given the movement their approval, and it is added:

Once the local organization is completed it is expected to number no less than 300 members interested in and playing a great part in the commercial and financial affairs of the city. These members will act as delegates to the great two-day convention to be held in Washington on December 10 and 11. Nearly every State in the Union is to be represented at the convention by an equally large delegation, and special excursion rates will be offered. So far 16 Southern States have been organized, and five have already been partially organized, with the exception of West Virginia.

These statements are fairly indicative of the character of the ghost of the Southern Commercial Congress. In spite of the fact of its circumstances

last December. It is still undertaking to "new-create," to use its own language, "the riches of the South." The jumble in the last sentence of the quotation, which would lead to the conclusion that it has already created eight new Southern States, making a total of 22, and leaving only 24 for the rest of the country, will be astonishing news to a number of men [unnamed] prominent in financial and commercial circles. They will also be interested in calculating the number of delegates that will attend the convention in Washington from nearly every State in the Union with a delegation as large as the delegation of 300 from Maryland, of which the ghost dreams. About 40 States would include "nearly every State in the Union," and 300 delegates from 40 States would total 12,000 delegates.

There will not be 1200 delegates at the convention, which is timed, as usual, to gain whatever impression may be possible from the presence in Washington of the members of the National Rivers and Harbors Congress.

Business men of Baltimore in memory of contributions to the so-called "National Good Roads Congress" in Baltimore last May, which, by the way, also proposed a branch in Baltimore, will be interested in reading the following extract from a poem planted in behalf of the Southern Commercial Congress at Winston-Salem, N. C.:

The work will meantime be carried forward by the sustaining membership of business leaders at \$100 each, and the expense of the convention in Washington December 10 and 11, 1909, will be met by organization membership of \$25 each.

What work?

WHAT IS YOUR TOWN DOING?

The MANUFACTURERS' RECORD will be glad to receive from responsible correspondents in every town in the South brief items of news about business conditions and the opportunities for industrial enterprises. This information is desired for publication without cost of any kind to the sender, and regardless of whether the writer of the letter is a subscriber or not. The MANUFACTURERS' RECORD accepts no paid town write-ups. It seeks information of this kind from commercial and industrial organizations and from municipal authorities in every town and city of the South.

The following letter from the secretary of the Manufacturers and Merchants' Association of Rome, Ga., is an illustration of the character of brief and comprehensive letters desired:

Manufacturers and Merchants' Association of Floyd County, Georgia.

Rome, Ga., September 11.

Manufacturers' Record, Baltimore, Md.:

Gentlemen—A coterie of the business men of Rome are anxious for the construction here of a plant manufacturing wooden novelties. These business men are willing to put up \$25,000 capital if they can find some competent and practical man as manager, who will invest a nominal sum as evidence of good faith.

The 56 manufacturing enterprises of Rome are all working full time, and one of them, the Georgia Manufacturing Co., is now doubling its plant for the manufacture of steel wheelbarrows.

The Rome Scale Factory has made considerable progress on the construction of its plant, and expects to be in full operation by November 1. Several other Rome factories are planning enlargements to be announced shortly.

Information relative to any of these propositions can be obtained from the Manufacturers and Merchants' Association. Very truly,

WILSON M. HARDY,

Secretary.

WANTS LOCATION FOR ARTIFICIAL SILK MILL.

Mr. C. E. Hertlein, 524-528 Broadway, New York, a large manufacturer of dress trimmings, writing under date of September 13 to the MANUFACTURERS' RECORD, says:

"Friends of mine are looking for a suitable site where a factory to make artificial silk should be erected. The main question is cheap labor. There will be about 500 girls and 250 men or big boys employed to begin with, but the place must be large enough to give 5000 employment in five years.

"The space wanted should be about 10 acres, and must have good soft water, of which there will be wanted about 500,000 gallons daily, and later on about 1,000,000 gallons daily.

"Price of coal and low taxes are essential.

"The artificial silk is being made in Europe since 10 years in always increasing quantities."

THE COTTON MOVEMENT.

In his report for September 10 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the first 10 days of the season was 272,352 bales, an increase over the same period last year of 45,577 bales. The exports were 76,839 bales, a decrease of 4415 bales. The takings were, by Northern spinners, 18,012 bales, a decrease of 9898 bales; by Southern spinners, 54,374 bales, an increase of 8361 bales.

A COTTON BIBLIOGRAPHY.

Hardly a week passes in which the MANUFACTURERS' RECORD is not asked for information or for references to sources of information about some of the many phases of the cotton industry, from the growing crop to the marketed goods. The information is desired by schoolboys, students in colleges and universities, public officials, magazinists, serious authors, essayists and orators for use in the preparation of compositions, theses, speeches, etc. We can understand, therefore, the boon that is offered to thousands of persons in the volume, "Bibliography of the Cotton Manufacture,"* by Mr. C. J. H. Woodbury, secretary of the National Association of Cotton Manufacturers. In the compilation of this valuable work the author has drawn upon material in libraries on both sides of the Atlantic, and, without attempting to present a complete list of books and other publications on the engineering and economic problems involved in the industry which touches at many points more inhabitants on the globe than any other, he has cited a mass of those that have been found to be helpful to the manufacturer and the student. The more than 5000 titles have been classified into cotton manufacturing, 820 titles; finishing, 874; engineering and machinery, 728; history and economics, 1361; cotton, 1025, and journals, 266. The frontispiece is a reproduction from an original print in the possession of the author of the earliest known engraving on a textile subject.

*Bibliography of the Cotton Manufacture. By C. J. H. Woodbury, A.M., Sc.D., consulting engineer, secretary of the National Association of Cotton Manufacturers. Published by the National Association of Cotton Manufacturers, Boston. Price \$2.

STUDY OF GULF COAST RECLAMATION WORK.

By E. R. ULRICH, JR.

[Written for the Manufacturers' Record.]

Starting from Springfield, Ill., on August 24, I reached Gueydan, La., about 2.30 P. M. the 26th, and met a civil engineer of 14 years' experience with the United States Government in level and drainage work. He took me out in a buggy over some of his drainage work south and west of Gueydan which he had planned. I can say, without danger of contradiction, that their system of drainage, irrigation and road-making probably stands at the head of any section in the coast country, and shows a great deal of study and some excellent engineering to work it out. The system was to build a dredgeboat on the highest point and gradually work it out to a lower level. For my part, I have spent a great deal of time in hunting and fishing over the low lands of Illinois, Florida, Louisiana and Texas, and my opinion is that the section around Gueydan has the most complete system of drainage I have seen. I am also of the opinion that any tract of this coast country land with the proper subsoil and bottom can be reclaimed and made ready for the plow for from \$2 to \$15 per acre, owing to the difference in the altitude of the land and the size of the tract. The reclaiming of these Gulf coast lands is a far safer proposition than the reclamation proposition along most of our Northern streams, and the land, after having been reclaimed, is far superior, the money-producing value amounting to more than double of what our Illinois choicest lands will produce per acre for such crops as sugar-cane, cotton and rice, while corn will probably make as much per acre with the same amount of work. Oranges which do nicely on these lands 15 to 20 miles from the coast and up to the coast will produce as much as \$500 to \$600 per annum per acre with proper care. One tree sometimes produces as much as \$100 per annum, and the oranges are sold on the tree to be gathered by the buyer. Figs, olives, lemons, peaches and pears also do well with proper care. They can raise almost any kind of vegetables which grow in almost any section of the United States. On the morning of August 28, after trying to get three different gasoline launches in order, and working over 24 hours on them night and day, our party of four started down the drainage ditches south and west of Gueydan. We crossed Grand Lake (a body of water about 9x12 miles in extent) in a southwesterly course, crossing the route of the proposed Intercoastal Canal, which is in process of construction and which will be a very important factor in the development of this whole coast country, giving much cheaper outlets for freight traffic than have been enjoyed up to the present time.

After crossing Grand Lake about 12 miles we landed on a point where the Mermentau River runs out of Grand Lake. We stepped out of the launch on to thick-matted grass which grows right up to the river's edge all along the streams and lakes in that section, showing that there is very little washing of the banks, as is the case along our Northern rivers having swifter currents. This shows that levees from two to four feet high along them (a few feet back from the banks) would be all that are necessary, and with back levees of probably the same height. These would be high enough to keep out any rise, and with arrangements for artificially taking care of any excess of rainfall they would put the land in first-class condition for the plow. The excess could be pumped into a reservoir made with the same dredge that the canals and levees are

constructed with. Reservoirs cover probably 40, 80 or 100 acres, according to the amount of land to be irrigated and the crops to be irrigated. Rice probably takes 100 times as much water as figs and oranges would need. The Illinois Canal at Hayes, La., has a reservoir of this kind, which went far toward saving the rice crops this year.

After taking our lunch on the banks of the Mermentau and watching myriads of fish of all kinds, with which the water was alive, from the immense tarpon down to the gar and crabs, we started the launch again for Grand Chenier Postoffice, a beautiful place lying on the east bank of the Mermentau along the river's edge, located about 10 or 12 miles north of where the Mermentau River empties into the Gulf of Mexico. This ridge runs back from the Mermentau River in a southeasterly course 15 or 20 miles to where it joins a similar ridge called the Big Pecan, which also runs about 15 or 20 miles in a southeasterly course. What we saw along this ridge on our ride of seven or eight miles in a buggy next day was certainly a revelation to me. Along the top and edge of this ridge is a fine natural shell road. Along the ridge also are hundreds of immense live oak trees, festooned with mosses and grapevines. This ridge is probably two or three feet above the reach of any Gulf storm which has ever struck this coast in the remembrance of the oldest inhabitants, some of whom have been born and raised on the ridge. One of these, a Mr. McCall, 50 years of age, told us that the last big storm which tested the Galveston jetties brought some salt water up on the side of the ridge in salt marshes, but lacked a good deal of going over the ridge.

Along the top of this ridge live the French Acadians, in good farmhouses located about a quarter of a mile apart generally, with well-kept Osage orange fences or fences made of China trees in rows. The land on this ridge is probably more closely settled than any farming section in Illinois outside of the towns that I know of, and with a good class of citizens. They own herds of cattle, sheep, horses and hogs, and have plenty of turkeys and chickens, and were gathering their crops of corn and cotton as we drove along the road. These crops they were hauling to the town of Grand Chenier, where a number of merchants own vessels which they run to Galveston, about 105 miles away. They generally load their oranges in bulk or barrels and take them to market in this manner. This ridge evidently was centuries ago the coast line, and the land between the ridge and the present coast ridge (which ridge is probably two feet lower than this one) is alluvial deposit of the richest kind, probably from 8 to 15 feet in thickness. The Grand Chenier Ridge, with the continuation of the Big Pecan Ridge, parallels the coast about six miles from the coast. The low land is a great grazing place for cattle, thousands of them thriving upon the free range and getting rolling fat in winter time by grazing on the fresh-water marshes north of the ridge, where the wild pea and the wild millet, 6 to 10 feet high, grow to perfection. There are probably 1000 people living along this ridge at Grand Chenier Postoffice and within 40 miles along the Grand Chenier and the Big Pecan ridges.

At Grand Chenier, where are located five or six stores, we stopped for several days with a merchant by the name of Mr. Miller, who owns a nice home and store. His yard contains beautiful flowers of all kinds growing in profusion, with evergreen

trees and palms festooned with honeysuckles in bloom, and with humming-birds flying to and fro. An alligator one and one-half feet long came up from the river to the barnyard the first night we were there. Mr. Miller's barnyard was filled with probably 300 or 400 chickens. He also had plenty of cows, calves and hogs. In his garden were growing oranges, mandarins, pears, figs, pecans, peaches, potatoes, peanuts, evergreen beans, okra that I happened to notice, and probably a great many things that I did not notice. At every meal his wife would put about one-half gallon of fig preserves on the table, and the best of home-made sugar-cane syrup. Sugar-cane grows to perfection in that section. The salt atmosphere and delightful climate are so healthful and invigorating, owing to the close proximity of the Gulf, that the only way the settlers can keep a doctor in that section is by general subscription, each family paying from \$2.50 to \$3 per annum. One doctor tried it the old way and could not make a living, so had to leave. No saloons are in that section. One party tried to operate a saloon, but did so little business that he had to give it up. The license fee there is \$2000 per annum.

Mr. Jones, the postmaster at Grand Chenier Postoffice, is a great enthusiast on the possibilities of this section. He also has a nice place located within a few doors of the store. These merchants own their own vessels, which are ready at their very doors, within probably 30 feet of their store buildings.

The shell road along this ridge would make a most excellent road for automobiles. An electric line down this ridge to the end of Big Pecan Ridge, then south and along the Gulf of Mexico, west to the mouth of the Mermentau and along the Mermentau to the Grand Chenier Postoffice, would, I think, in the course of 10 years be a bonanza. This electric line could furnish power to run the syrup mills, corn mills, cotton gins, and could carry passengers and freight to and from the coast. A packing plant on the Mermentau to pack beef, pork, mutton, fish of all kinds, figs and vegetables would certainly be a paying investment. The possibilities of the natural resources of this section are, from my point of view, almost unlimited. We asked Mr. McCall, who was born and raised on this Grand Chenier Ridge, if he thought that a levee along the Gulf coast would wash out. He replied by asking the question whether the coast itself would wash out. A levee would simply have to be built on the same slope as the present Gulf coast, raising one foot in five, so that the waves from the Gulf, instead of washing out the levee, would simply wash over it and continually build it up with sand and shells. This coast is covered with thousands of tons of the finest ground shells. Mr. McCall said he would be willing to risk his money in a proposition of this kind. He also stated that a levee two to four feet high, probably on the Gulf side, would be sufficient, the Grand Chenier Ridge and the Big Pecan Ridge already forming a perfect natural levee on the north side.

These French people have small gardens, some of them possibly 40x80 feet in size, with high fences around them, located as near as they can get them to the marsh, where they raise the finest vegetables.

Possibly the reason that the writer of this article is so enthusiastic on the reclamation question is this: About 23 or 24 years ago, riding over the central part of Illinois, about halfway between Springfield and Decatur, the writer came across a perfectly level body of alluvial land, about 1150 acres, mostly belonging to one party. It was nicely located below the

level of the surrounding country and skirting the Sangamon River, partly in Sangamon county and partly in Macon county. The settlers in that neighborhood, when asked about the piece of land, said that it would not raise grass owing to the overflow of the river. The land was bought from the party, who had been trying to farm it for a number of years without a proper levee. It was purchased for \$11 per acre. The levee was built on all four sides at a cost of \$15,000. The levee was constructed with scrapers, which is a much more expensive mode of construction than with dredgeboats, it costing possibly 12½ to 15 cents per yard to move the dirt with the scraper, whereas to move it with a dredgeboat would cost from 3 to 7½ cents per yard. The levees around this Illinois farm are two to three times as high as would be necessary around the land contiguous to the Grand Chenier. This Illinois land was drained toward one corner and a pumping plant installed, a Menge pump at the present time doing the pumping when necessary. This land has been in our family since it was purchased at \$11 per acre. It has raised about 20 out of 21 crops. It has probably raised as much or more grain per acre than the higher land adjoining it, which is probably worth \$150 to \$200 per acre. The above tract of 1150 acres is not for sale at any price. This artificial draining costs not over 25 cents per acre per annum. It is my opinion that any of the swamp land in the vicinity of the Grand Chenier or Big Pecan Ridge, either the salt-water marsh or the fresh-water marsh, can be developed with dredges and make a cheaper and far safer proposition in bodies of 1500 to 2500 acres than the above cited Illinois farm, and the money-producing value per acre will far exceed the Illinois land. After the levee proposition has been started each new tract would adjoin the first levee, thus saving the cost of the levee on that side.

Springfield, Ill.

Doings at Durham.

[Special Cor. Manufacturers' Record.]
Durham, N. C., September 14.

In the first tobacco breaks of the past week the three warehouses sold about 30,000 pounds at an average of 11 cents.

The plans of the Brodie L. Duke building on Main street have been changed from a two-story brick structure to a thoroughly handsome steel and brick house, and the work begins this week. Architect H. C. Linthicum has drawn plans, which show a \$100,000 four-story building 225 feet in length, with electrical elevators and prism lights. The first two floors will be employed as storerooms, but the third and fourth have not been decided upon.

The Academy of Music, which was first expected to cost about \$35,000, will be a \$65,000 theater and municipal building when it is completed by next month.

The Golden Belt Manufacturing Co., with T. B. Fuller president, is figuring upon a branch factory in Oxford, where bags for the American Tobacco Co. will be made. The old Hicks factory will very likely be rented, and if so it will employ about 40 women operating electrical sewing machines, with a payroll of about \$300 a week.

The Carolina Roller Mills have resumed work after repairs which cost \$3000 or more, and are running night and day with their 80-barrel grinders. There have been taken 5000 bushels from Gen. Julian S. Carr's farm, which beats a State record for bushels to the acre. It threshed 980 bushels from 22 acres. W. T. Bost.

It is estimated that the Texas rice crop this year will reach 1,000,000 bags, nearly 600,000 bags less than last year's crop.



This is a view of the building in course of construction for the Brownwood National Bank, Brownwood, Tex. Sanguinet & Staats of Fort Worth, Tex., are the architects.

ORGANIZED FOR TAMPA.

A Business Body to Advance the Interests of the City.

[Special Cor. Manufacturers' Record.]

Tampa, Fla., September 13.

On September 1 there was effected the consolidation of the three trades bodies of Tampa, with the dissolution of the Board of Trade, Chamber of Commerce and Publicity Club. A new Board of Trade, bigger, broader and better, was organized at an enthusiastic general meeting, when Frank C. Bowyer was elected president; W. G. Brorin, first vice-president; E. D. Hobbs, second vice-president; J. A. Griffin, treasurer; Willis B. Powell, secretary, and W. M. Carruth, W. F. Stovall, Chester R. McFarland, Eugene Holsinger, T. Greco, Geo. N. Benjamin, Ed. M. Hendry, D. B. McKay, Frank Bruen, A. Nistal, T. Ed. Bryan, W. C. Thomas, C. E. Ball, C. Fred Thompson and Salvador V. M. Ybor, board of governors.

A strong committee on membership was appointed, and within three days enrolled more than 150. It is thought the total membership will be 350 or more. The initiation fee was placed at \$5 and the yearly dues at \$30. The board expects a working capital of \$10,000, and this sum will allow it to place itself before the world advantageously.

There is every indication that the city will double its population within four years. At present the cigar industry is making 6,000,000 cigars a week. The post-office receipts, custom-house receipts and all other data which are accessible show an increase of from 25 to 30 per cent. over the corresponding period last year. Dock and terminal facilities costing over \$2,000,000 for the Seaboard and Tampa Northern railroads, Mallory and Southern steamship companies and other coast lines have been built. New manufacturing are springing up. In the building line there is a \$125,000 Y. M. C. A. building, the big Rosenberg cigar factory, which is

coming here from New York; many apartment-houses after modern plans; hundreds of dwelling-houses; new sub-divisions being platted, and 50,000 acres of land adjacent to Tampa being sold in small tracts to actual homeseekers.

The Tampa Northern Railroad is being extended from Brooksville to Dunnellon, a distance of 40 miles. The Tampa & Gulf Coast Railroad will be extended from a point near Odessa to Tarpon Springs yet this year; but 19 miles is necessary to complete the line. With the completion of the Tampa Northern Railroad to Dunnellon it will tap the richest phosphate fields in the State. To handle the phosphate the road will erect at its terminals on Hooker's Point, Tampa, a phosphate elevator.

A capitalist from Birmingham is negotiating for a large hotel to be built on the property adjacent to the Tampa Tribune office, and another tourist hotel is in contemplation on Franklin street, opposite the Tampa Times office.

At present a large force of men are constructing the mile track just outside the city limits, where December 1 begins a race meet.

W. B. POWELL.

Great Drainage Project.

Owners of more than 300,000 acres of land in the St. Francis basin in Arkansas have filed petitions asking for the creation of a general drainage district to cover the whole territory of the basin north of the Iron Mountain Railway. Should the plan be carried out much valuable land will be reclaimed and protected from overflow of the St. Francis, Tyronza and Little rivers. A preliminary survey has already been made.

The financial statement of the first year's operations of the Georgia Fruit Exchange made by Manager I. M. Fleming shows that the gross earnings of the exchange were \$40,463 and the expenses \$22,231.

THE GRAY ORES OF TALLADEGA COUNTY, ALA.

By JOHN JERMAIN PORTER, Metallurgical Engineer, Cincinnati, O.

[Written for the Manufacturers' Record.]

The Cambrian gray-ore deposits of Talladega county, Alabama, have been known since 1858, and have been many times reported upon both by the geologists of the United States and State surveys and by private parties. They have also been several times tested in the furnace, and once used continuously for a considerable period. In spite of the time and opportunity thus afforded; the greatest ignorance and misconception prevails as to the nature of these ores, and erroneous reports have been widely circulated to the effect that they were entirely too lean to be of value, and that the small traces of magnetite, titanium and potash which they often contain rendered it impossible to make good iron from them. During the past few years there seems to have been a revival of interest in these ores, and perhaps also a decrease in the prejudice against them. Since we are now on the threshold of a boom in the iron industry, and Alabama is again threatened with one of her chronic shortages of ore, it seems a proper time to review the whole situation and to point out concisely the value and place of these gray ores.

A study of the history of Alabama's iron industry reveals some interesting facts which at first sight appear quite contradictory. The State has been widely advertised with respect to its abundant supply of raw materials and low cost of manufacturing. There can be no doubt as to the general accuracy of these claims, but the prediction which has been based upon them, to wit, that it would soon equal or pass in importance those iron-making centers which depend upon Lake Superior ores shows no prospect of fulfillment.

The geologists of the United States Geological Survey, after a most careful investigation, have put forth various estimates of the iron-ore resources of Alabama, the means of which run about as follows:

	Red ore. Brown ore.
*Available under present conditions.....	300,000,000 10,000,000
Too low grade to be used at present, but forming a future reserve.....	600,000,000 30,000,000
Total resources.....	900,000,000 40,000,000

[*The amount of ore in Alabama and adjacent States as given by Mr. E. C. Eckel, United States Geological Survey, in his report of 1906 is considerably larger than the figures quoted from another report by the United States Geological Survey by Mr. Porter.—Editor MANUFACTURERS' RECORD.]

The strong position of Alabama is clearly indicated by these figures, and it is with surprise that we note that she produces only about 8 per cent. of the ore and pig-iron output of the United States. But this is not all. There are 49 blast furnaces in Alabama, whose yearly requirements of iron ore should be approximately 6,000,000 tons, and at this rate the ore supplies of the State should be sufficient to run all of them continuously for 160 years. As a matter of fact, however, we find that in the year 1906, which was a year of high prices and big profits, only 20 furnaces, or 60 per cent. of the total number, were operated. The following is a summary of the statistics of Alabama's iron production, and it will be noted that

Year.	Pig-iron production of Alabama. Gross tons.	Per cent. of production of U. S.
1875.....	22,418	1.1
1880.....	68,925	1.8
1885.....	207,069	5.0
1890.....	316,911	8.0
1895.....	854,667	9.1
1900.....	1,184,337	8.8
1905.....	1,604,062	7.0
1906.....	1,674,848	6.6
1907.....	1,686,674	6.6
1908.....	1,397,014	8.8

she has not fulfilled the promise of her early days and has fallen off slightly in relative importance:

It is well known that in spite of Alabama's apparent enormous resources, the chief factor standing in the way of a large increase in her output is shortage of ore, and the thing which more than any other causes this shortage is the peculiar character of the ores available.

In the earliest days of iron-making in Alabama the industry was founded upon the brown ores which are found over so large an area of the State. These ores occur as surface deposits, and are in many cases easily and cheaply mined. They are, moreover, easily reduced in the blast furnace, are frequently rich in iron, and since they are commonly used in other districts they offered no new problems to the pioneer furnaceman. Because, however, of the essentially surface character of these deposits they are not, except in rare instances, of any great extent. Many of the mines have been exhausted after a few thousand tons have been obtained from them. In other cases the great bulk of the ore has been found to be associated with so much waste material as to make it impossible to mine at a profit. In but comparatively few cases has the brown-ore deposit proved to be of sufficient magnitude to afford the sole source of supply for a blast furnace, and many cases could be cited of furnaces which were built and located to run exclusively on local supplies of brown ore, and which have since been forced to remain idle or to bring other ores from long distances because of the failure of their original supplies.

The great bulk of the iron resources of Alabama are in the form of the hard red or limey ores, and this ore must now form the chief part of the furnace burden. There is an enormous quantity of this ore available, although it is true that the best and most cheaply mined deposits are now concentrated in a few strong hands.

The use of this ore is, however, attended with certain disadvantages. It is more difficult to reduce in a furnace than most others, and hence requires more fuel and lessens the output as compared with brown ore. Frequently it is also high in alumina, and for this reason gives a troublesome slag. Because of these facts, it is found commercially necessary to mix the red ore with from one-sixth to one-half brown ore for use in the furnace, and it is the difficulty and expense of getting the necessary brown ore for this purpose which is one of the chief factors in retarding Alabama's progress as an iron producer.

It is evident, then, that what is needed is either more brown ore or an acceptable substitute therefor, and we may now consider whether or not the gray ore will not come under this latter head. There are three points to be considered in this connection: First, the quantity of ore available; second, the cost of winning it, and third, its quality and suitability.

With regard to quantity, we have the evidence of the many geologists who have examined these deposits. Perhaps the most reliable estimate is that which was made by the well-known expert, E. C. Eckel. I quote from a paper recently

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1908.....	1,397,014	8.8

published by him in the *Iron Trade Review*:

"Taking only the better-known portion

of the range, it is probable that in this 10-mile section there is somewhat over 50,000,000 tons at easily workable depths, i. e., above the 1500-foot level. About one-half this total tonnage will grade above 45 per cent. metallic iron, the remainder ranging from 45 per cent. down to 35 per cent. A fair proportion of the total, say 5,000,000 tons, can probably be mined so as to grade 50 to 53 per cent. iron."

The total amount of brown ore mined in Alabama since the earliest times is approximately 10,000,000 tons, and the amount of brown ore estimated to be still available in the State as 40,000,000 tons. It should be noted, however, that the greater part of this latter quantity is of a grade too low to be used under present conditions. To look at the matter in another way, a large Southern furnace requires in the neighborhood of 200,000 tons of ore per annum. Using a mixture of one-quarter gray and three-quarters hard red ore, and considering only that gray ore running about 45 per cent. as available, there is a sufficient supply of gray ore to run such a furnace 500 years, or to run 50 such furnaces 10 years.

With regard to the cost of winning, we have but little data upon which to base an estimate, since most of the mining which has been done thus far has not gone much beyond the outcrop and has been largely for purposes of development. One of the most successful mine superintendents in the Birmingham district recently looked over these properties and afterwards in talking with the writer expressed the opinion that by following a suitable plan the actual mining of the ore could be done for not to exceed 60 cents per ton. It seems probable, therefore, that when operating on a sufficiently large scale the total cost of placing ore on board cars, including development charges, fixed charges, etc., should run somewhere in the neighborhood of \$1 per ton, or about the same as in the case of the red ore of the Birmingham district.

With regard to the cost of transportation to the furnace, the ore is fairly well located. It will carry a lower freight rate to the Birmingham district than the majority of the brown ores which are used there, and it is situated closely adjacent to a number of furnaces in Eastern Alabama which are at present standing idle because of the failure of their ore supplies.

Coming next to the question of quality, there is ample evidence as to the value of these ores. The writer has been interested in this phase of the matter for some years past, and has had opportunity of observing the action of the ores in the blast furnace. The results of several furnace tests which have been made may be summarized as follows:

First, as to the grade of the ore, the following analyses of a 1000-ton furnace shipment from Heacock Mountain may be regarded as representing what it is commercially possible to mine from that deposit:

No. of cars represented by sample..	1	2	3	4	5	6	7	8	9	10
Iron.....	47.97	48.71	50.77	48.90	48.82	49.72	51.26	47.82	50.74	49.57
Silica.....	22.58	20.57	17.09	19.00	19.85	18.59	16.38	20.88	17.65	19.56
Alumina.....	4.35	4.64	4.62	5.16	5.54	5.14	5.94	4.83	4.57	4.79
Lime.....	1.23	1.08	1.28	1.79	1.29	1.54	1.49	1.44	1.12	1.10
Phosphorus.....	0.24	0.21	0.22	0.23	0.26	0.28	0.23	0.28	0.21	0.25
Manganese.....	0.05	...	...	...	...	...	...	...	...	...

Average of All Analyses.

Iron.....	49.43%
Silica.....	19.21%
Alumina.....	4.84%
Lime.....	1.34%
Phosphorus.....	0.24%
Manganese.....	0.05%

Second, the quality of the iron made from a mixture of gray ore with either red or brown ore is highly satisfactory, and there can no longer be any question whatever regarding the ability of this ore to make good foundry iron. The iron is not only good as regards chemical analysis, but has a good open fracture, and is generally satisfactory as to appearance. A

small decrease in sulphur and a marked increase in the average grade of the iron made has usually been noted.

Third, the rate of driving, and hence also the output, has invariably shown an increase. Increase in the rate of driving amounts to about 10 per cent. in the number of charges per day taken by the furnace.

Fourth, the fuel consumption, which in some cases is slightly increased, is on the whole very satisfactory. It is noticeable that the addition of the gray ore invariably causes what is known as "scouring" or cleaning of the furnace walls. This is not an unfavorable factor, but rather the contrary. However, while the walls are being cleaned off the furnace is cooled to some extent, and unless more fuel is used a lower grade of iron is produced. After the walls have been once scoured it is not necessary to use this extra fuel, but the period of scouring usually extends over several days. In the case of these tests, because of their short duration, the high fuel consumption necessitated by the few days of scouring has an unduly great effect on the average results for the whole period. As confirming this, it has been noticed that the fuel consumption usually became less during the latter part of the test period. As confirming this explanation, it was noticed that the fuel consumption became less during the latter part of the test.

The results of this test are confirmed in nearly every respect by previous experience, and it is a noticeable fact that every furnaceman who has ever used these ores has a favorable opinion of them, and this in spite of the fact that much of the ore formerly mined was of the low-grade sort. In several cases furnacemen have expressed the opinion that a gray ore containing 46 per cent. iron is preferable to the average brown ore used in Alabama.

As a result of these tests, together with all other available experience, we have now sufficient evidence to warrant the following summary comparison of gray and brown ores.

The gray ore is higher in iron than the average brown ore used in Alabama. This is shown by a comparison of the following analyses, which represent the average of many furnace shipments during the years 1908-1909:

	Iron.	Insoluble.	Silica.	Phos.
Gray ore, furnace shipment of 29 cars.....	49.43	...	19.21	.24
Av. 525 cars, 5 washers, East Ala. brown ores.	46.74	17.27	...	...
Av. 18 mines, several thousand cars Alabama brown ores.....	47.05	17.38	...	.58

The gray ore is lower in the proportion of alumina to silica than many of the ores used in Alabama, and this should prove to be of great advantage in the case of those furnaces which are troubled with a high alumina slag.

The gray ore is lower in phosphorus than the majority of brown ores, as shown

by the above comparative analyses. This is quite an important advance, since the high phosphorus in most Alabama ores seriously limits the market of the iron made from them.

The gray ore can be readily mined so as to run very much more uniform in composition than brown ore, and hence the burdening of the furnace is made very much easier and more accurate. This means a smaller percentage of casts of "off" grades of iron, and is a very important advantage.

The grade ore possesses the peculiar

property of increasing the rate of driving of the furnace, thus increasing the output. The indications are that the rate of driving is increased about 10 per cent. over that obtained when using brown ore. Other things being equal, the output would, of course, be increased in the same proportion.

The use of the gray ore appears to have a tendency to lower the blast pressure, give smoother furnace work and produce lower sulphur iron in many cases. These points are all advantages.

The gray ore is higher in silica than the average brown ore, and hence requires somewhat more limestone as flux and produces a larger amount of slag. This is somewhat of a disadvantage.

The gray ore is very low in manganese. This is not always a disadvantage, depending on the manganese content of the ores used with it. It would even be an advantage if it were proposed to use the gray ore in connection with brown ore of high manganese content. However, when used in admixture with hard red ore, as is customary in Alabama practice, the low manganese is certainly somewhat of a disadvantage.

The gray ore is probably somewhat less easily reducible than brown ore, and this, if true, is a serious disadvantage, but is not yet fully proven. It is at least more readily reducible than the hard red ore. The best numerical expression which we have at present for reducibility is the relation of ore plus flux to coke, which is found possible by actual furnace experience. Expressed in this way, the probable relative reducibility of the three classes of ores is about as follows:

Burden consisting of all red ore.....	1.70
Burden consisting of all gray ore.....	2.00
Burden consisting of all brown ore.....	2.30

Because of the larger amount of slag produced and also because of the more difficult reducibility (if this be true) it will cause an increase in fuel consumption, other things being equal. However, as compared with the average brown ore other things are not equal, and the higher iron content of the gray ore would at least partly offset these factors.

Finally, then, it seems proper to conclude that the gray ore when properly mined has a value about equal to that of the average brown ore used in Alabama, any slight increase in fuel consumption in the case of the gray ore being about offset by an increase in the output and quality of the iron. Since, therefore, this ore fulfills satisfactorily the three essentials, quantity, moderate cost and good quality, we are warranted in believing that it will prove of tremendous value in supplementing the depleted supply of brown ores, and is destined to play a most important part in the future development of the iron industry of Alabama.

Proposed \$3,000,000 Dam.

The MANUFACTURERS' RECORD is informed that United States Army engineers have begun preliminary surveys and borings for the proposed storage reservoir on the Etowah River near Cartersville, Ga. This is to be provided by constructing an earth and concrete dam, costing about \$3,000,000, with storage capacity of 35,000,000,000 cubic feet of water. The dam is to store excess water during rainy seasons, preventing floods and equalizing the flow of the river during dry periods. It is proposed that the cost be borne by the United States Government and the amount be refunded in future by various water-power companies benefited by the increased power value of the river. No construction work will be undertaken until approval by Congress. Probably Capt. H. B. Ferguson of Montgomery, Ala., can give information.

SOME PROGRESSIVE CITIES OF TEXAS.

BROWNWOOD'S RAPID GROWTH.

But the Texas City Has Basis for Greater Advancement.

[Special Cor. Manufacturers' Record.]
Brownwood, Tex., September 2.

The phenomenal growth of Texas during the last decade is nowhere more marked than in the beautiful town of Brownwood. Only a few years ago a village of a few hundred people, today she has, according to very recent enumeration, a population of over 11,000 of keen, progressive people. This growth is by no means of the mushroom kind, but of the most substantial character. When one comes to examine into the cause of this growth he has not far to look. Like all Western cities and towns, the real basis of its size and commercial importance is its agricultural resources. Brownwood is especially blessed in that respect, for in addition to the fertile fields of her own (Brown) county, the products of five or six other counties have been coming here for years. But of this county alone much may truthfully be said to show a large and increasing source of wealth. Of the 850 to 900 square miles, about 75 per cent. is already under fence and a large per cent. in actual cultivation. The cotton crop of this county last year was a little over 45,000 bales, and under normal conditions this will be increased from year to year. With cotton selling at 12 cents such a crop means about \$2,750,000 turned loose here annually.

But that is only a part of the annual income of Brownwood. With two large compresses 150,000 bales of cotton were compressed here in 1908, and as the annual production of this crop in territory tributary to this point may reasonably be expected to increase for several years to come, the income from that source must also increase.

But cotton is only a part of the product of the soil of this portion of Texas. Alfalfa is another important money crop, and promises to be increased many fold, while for home use corn, milo-maize, Kaffir corn, oats and a limited amount of wheat are each grown here.

Horticulture promises to be another source of income, as many varieties of fruit are found to grow here to perfection, and all manner of vegetables, including the melon family, may be grown on the soil here for Northern markets with profit to the grower.

But if you ask me if this is the place for the homeseeker, my answer would be no. The reason is, there is practically no land for sale in this county. It is estimated that 75 per cent. of the farms in this county are owned and worked by the men occupying them, and not one in fifty of these farmers would consider a proposition to sell at anything near a reasonable figure. No better evidence can be found of the productiveness and value of these lands or the desirability of this locality for a home.

As might naturally be expected in such a section, railroad facilities have been provided. Two roads are and have been for some time here, and a third is building. The Santa Fe and the Frisco both traverse the county, the former from east to west and the latter from northeast to southwest, while the Wichita Falls & Southern is building this way, and is supposed to be headed for the Gulf at some point giving deep-water connection. This last road promises to open up new territory for Brownwood, and thus add materially to her commerce. Successful railroad men are invariably far-seeing men, and as an evidence of their confidence in the value of Brownwood's commerce to them it need only be stated that both the Santa Fe and

the Frisco are planning important improvements in Brownwood for their respective lines. It is given out that the Santa Fe will build a \$50,000 passenger depot and a \$25,000 eating-house, and will, in addition, expend between \$200,000 and \$250,000 on division buildings and yard and freight depot facilities. The Frisco is also having plans prepared for a \$25,000 passenger depot, and a much larger sum will be expended on yards, tracks and freight depot.

But the sums to be expended by the railroads in buildings is only a small part of what has been in the past few months, and what will be invested here within the next few months for building purposes. In all my travels through North, East and South Texas during the last few months I have yet to see the town of the size of Brownwood where there is an equal amount of building of the substantial character that is now going on here. The close of 1909 will witness the completion of no less than 200 dwellings for the year, ranging in cost from \$4000 to \$25,000. It is estimated that the average cost will be about \$10,000, but allowing only \$5000 as an average, and that is considered a conservative figure, we then have \$1,000,000 invested in homes for the prosperous citizens of a prosperous young city. Certainly this is a remarkable showing for a town just entering what may be termed the cosmopolitan class of American towns.

One condition peculiar to this town and county is the fact that no large tracts of land are to be found here; that is to say, no big ranches which might later be subdivided for the homeseeker. On the contrary, it is claimed that from 80 to 85 per cent. of the area of the county is now owned by farmers who occupy and work their own fields. And not only do they own their farms, but few of them are in debt. I am told that it is an unusual thing to hear of a farm in this county being offered for sale, and that farm lands here range in value from \$35 to \$75 an acre.

Another important feature in conditions is the change from the Texas horned cattle to improved breeds. Practically every farmer has on his place a small herd of Herefords, Durhams or some other high-bred stock, while the little Mexican cow pony is being rapidly displaced by improved, and in some localities by high-bred, American horses. While Texas farmers formerly sent to St. Louis or Louisville for their mules, they are now raising them at home, and some of these Texas-raised mules are as fine specimens of their species as can be found anywhere. Many other portions of this State are turning their attention to the improvement of all their stock, and the day is not far distant when Texas will be an exporter of fine horses and mules, instead of an importer thereof. This fact is mentioned merely to illustrate the growing spirit of enterprise of these people.

Brownwood has two fine flouring mills with a combined daily capacity of 300 barrels, besides all the by-products. She also has two ice plants, an electric light and power company which is now building a \$50,000 building for its exclusive use. The West Texas Telephone Co., which owns the local exchange, is erecting a fine two-story building for itself. The Brownwood National Bank is building what will be decidedly the handsomest building in town, and also the first six-story building erected here. This building will cost complete \$100,000.

The new ward school building now in course of completion is another handsome structure, and will cost \$25,000. Nine

other business buildings are now being built, costing from \$6000 to \$25,000 each.

Brownwood also has a fine cottonseed-oil mill, with a daily capacity of 100 tons, and a proposition is now being considered to erect another one of like capacity. At first thought this might be considered unnecessary, or at least a risky investment, but in view of the fact that Brownwood is in the center of a territory producing annually, under normal conditions, 500,000 bales of cotton, it would appear to be not only a safe investment, but a very profitable one as well.

Another condition here which contributes to the making of not only a fine business city, but likewise a desirable residence city, is the abundant water supply and a fine system of water-works and sewerage. I am informed that these two systems have cost the city approximately \$250,000. A new pumping station has just been installed at a cost of \$25,000, which is claimed to be one of the finest in the State. Something of an innovation in the matter of motive power is an interesting feature of this plant. While it is known that extensive deposits of coal exist in this portion of the State, yet the absence of sufficient railroad facilities until recently has retarded the development of the coal mines, and in order to meet and surmount this deficiency a large gas-producer engine was installed, with appliances for producing its gas from lignite. This has proved not only an efficient and reliable power, but an economical one in the matter of fuel as well.

In the matter of building material, nature has blessed Brownwood most lavishly. A chain of hills circumscribes the city at a distance of three or four miles back to an extreme distance of 26 miles. The country lying between the city and those hills presents some of the most enchanting views imaginable. For the most part it is a level tableland, with just sufficient fall to provide ample drainage, and as one stands on the high ridge in the city upon which the residence portion is situated, he may turn in every direction and see the hundreds of country homes, with their white dwellings, brown-colored barns, windmills and fields of growing crops, with here and there a pasture with bunches of white-faced cattle, fat horses or mules, and in the background a small mountain covered with mesquite, cedar and black-jack—altogether a most inspiring view. But it is in these hills, and also in the lower hills lying close to the Colorado River, which runs by Brownwood, that quarries of the finest building stone are found. Many of the fine business houses of the city are built of this material. There is still another material which is destined to be an important factor in house building in Brownwood and neighboring towns. This is an extensive deposit of brick shale, said to be as fine as there is in the Southwest. One small plant here is using this shale in the manufacture of building brick, and with rather crude appliances it produces a superior building brick which sell right at the kiln at a handsome profit. A large plant here with ample means to install machinery and carry on the manufacture of brick from this material on a large scale would find a most inviting field, with 15 to 20 towns for patrons. D. T. Johnson, secretary of the Brownwood Commercial Club, can give detailed information on the subject.

But there are other features applying to this modern young city entitled to careful consideration. Among these may be mentioned the school advantages. The city has five ward school buildings, four for white and one for colored; also one high-school building, with a regular attendance of over 600. In addition to these public schools there are two col-

leges, the Howard Payne (Baptist) and the Daniel Baker (Presbyterian), with a combined attendance of 400 or 500 students.

I am indebted to D. T. Johnson, secretary of the Brownwood Commercial Club, for much information included in this letter, and also to the Hon. A. M. Brumfield, county judge of this (Brown) county. The following interesting statistics were obtained from the last-named gentleman:

The population of the county in 1900 was 3100, whereas today it is between 35,000 and 40,000, with a school population now of 5768. The assessed valuation of the county for the year 1901 was a little over \$4,000,000, while now it is \$11,752,000.

The county has a fine courthouse, costing about \$65,000; a jail, costing \$30,000; has no bonded indebtedness whatever, and, better still, has over \$20,000 to her credit, with a very low rate of taxation, that of the county being 25 cents on the \$100.

The road district in which Brownwood is situated recently voted \$100,000 road bonds, which will be used for the improvement of roads leading into this city. While the road district is improving its roads, the city authorities are active in the work of improving their streets, and with an ample supply of rock right at their doors, this work is being carried on at a comparatively low cost. The system pursued is as follows: First the roadbed is graded and rounded up; then a six-inch layer of crushed stone is put on and a thin covering of clay, and then the whole work is given a coat of crude petroleum, which gradually works into the other material, forming a surface which more readily sheds the water and at the same time prevents the clouds of dust, so common and annoying along ordinary roads in dry weather.

As all crops are about laid by now, the road commissioner is enabled to get both men and teams for less money than at any other season of the year, and thus with \$100,000 a far greater amount of work will be accomplished.

WM. C. CLOYD.

ABILENE'S AMBITION.

Vast Territory in Texas Tributary to Its Trade.

[Special Cor. Manufacturers' Record.]

Abilene, Texas, September 8.

Situated 150 miles west of Fort Worth, on the Texas & Pacific Railroad, and 450 miles east of El Paso, at an altitude of 1750 feet, is the little city of Abilene, with a population of about 15,000 people. Though quite a young city, there are many features found here tending to indicate the ability of its promoters to accomplish big things in the near future—water-works, electric-light and power plant capitalized at \$200,000; a sewerage system costing \$40,000; a gas plant costing \$50,000, for light, heat and power purposes; a street-car system; several strong banks, with an aggregate capital of \$500,000 and deposits exceeding \$1,500,000; three wholesale houses, with \$750,000 capital and doing an annual business of approximately \$5,000,000; a large number of retail houses, representing every branch of the retail business and doing between \$1,500,000 and \$5,000,000 annually. These are some of the business enterprises of Abilene, and may be taken as an indication of the dimensions of her business and financial institutions in a general way.

Besides the Texas & Pacific Railroad, the Wichita Valley road from Wichita Falls has its present terminus here. The Abilene & Southern Railroad is building from this point, and will be built through to the Gulf in the near future, thus giving railroad connection in four different

directions and contributing to the advantages needful in building up a wholesale and jobbing center. The Wichita Valley and the Abilene & Southern now belong to the Burlington system, and in this city are located the general offices, roundhouse, machine shops and division offices. Through this line Abilene will have direct connection with deep water at some Gulf point and put her in far better position to reach foreign markets. In addition to these lines, four other short lines are projected from this point, which when built, and I am assured by prominent business men here they will be done within two years, will furnish facilities for reaching the trade of an immense territory, embracing more than 50,000 square miles. Of the cotton crop of Texas in 1906, which was 4,000,000 bales, the Abilene trade territory produced approximately one-fourth.

Another interesting feature of the Abilene territory is its rapid increase in population during the last six years. During that period it is conceded that the population of the entire State of Texas has increased 50 per cent., while the "Abilene country" has increased nearly 400 per cent. Furthermore, Texas has room for the entire population of the United States and allow at least 10 acres for each family, while the "Abilene country" could support one-fourth of that number of people without crowding them uncomfortably. But while this is all true, and it is also true that Texas has the greatest railroad mileage of any State in the Union, it is a further truth that the "Abilene country" hasn't more than one-fourth of its share, and herein lies one of the greatest fields for the investment of capital.

Of the three large wholesale grocery houses here, with a combined capital of \$750,000, the Radford Grocery Co. has seven branches, the Wooten Company has five and the Smith-Walker Company is establishing four, while the Ed. S. Hughes Company, wholesale hardware, with headquarters, has four branch houses. There is a candy factory here with a capital of \$25,000, and the Dudley Machine & Manufacturing Co., with a like capital, is manufacturing farm implements especially adapted to the requirements of this section. The Continental Oil Refining Co., with a capital of \$250,000, has one of the largest cottonseed-oil and refining plants in the State. The Lanier Brick, Tile & Terra-Cotta Co., with \$50,000 capital, is another important enterprise. The Texas Oil Co. and the Waters-Pierce Company each carries immense supplies here, making Abilene the distributing point for West Texas. The Shippers' Compress Co. handled 63,500 bales of cotton here in 1906, and last year 60,000 bales, the crop of 1908 being a comparatively short one. A United States courthouse and postoffice costing \$100,000 and a \$15,000 Government weather bureau are also located here. Of small manufacturing plants the following are worthy of mention: A mattress and bedding factory, can factory, machine shops, two planing mills, bottling works, a broom factory and four cotton gins, with capital aggregating approximately \$100,000.

The city has three handsome public school buildings, costing in the aggregate \$70,000, while a fourth is in course of construction, which will cost \$40,000. In addition to these public schools, there are four private schools, as follows: The Dellis Home School, the Cooper Training School for Boys, Childer's Classical Institute, belonging to the Christian Church, and the Simmons College, Baptist. All these private schools represent an investment of approximately \$250,000 and an enrollment of 1000 to 1200 students, in

addition to the 2000 of the public schools. These figures are given to afford the reader an idea of the character of people who make up the 15,000 inhabitants of this beautiful, modern little city. When it is remembered that only a few years ago the only inhabitants of this section were cowboys, long-horned cattle and cayotes, it will readily be understood that the growth has been phenomenal.

Seventeen different church organizations are domiciled within the corporate limits of this city, each owning a house of worship and having large memberships. The churches of all these organizations represent an investment of \$500,000. But the spirit of enterprise is in the religious as well as in the commercial people of Abilene. The Baptists are building a new \$50,000 church, the Methodists a \$40,000 and the Presbyterians a \$25,000, making \$115,000 now being put into more beautiful houses of worship.

Three million five hundred thousand dollars' worth of cotton was handled here last year, and \$1,500,000 worth of livestock was shipped from here during the same period, thus making a clean \$5,000,000 worth of business from two products alone of this section.

Climatic conditions are ideal, the mean temperature being for summer 79 and for winter 50. Rainfall is about 30 inches per annum, which is found to be ample for the production of crops here. Three sanitariums are here, and a hospital is now being organized.

The source of water supply of Abilene is something like three miles out, where a concrete dam 700 feet long, situated between two hills, creates an immense reservoir two miles long, with an average width of perhaps 300 feet and a maximum depth of 35 feet. This is fed by springs rising in the hills about nine or ten miles southwest of the city, and when the town attains a population too large to be supplied from this reservoir others can be created by the same process for the entire distance from this one to the head of the springs. Thus it is claimed that an ample supply can be impounded for a city of 250,000 people.

In every respect the town of Sweetwater is a worthy type of this living, hurrying, pulsating Southwestern humanity, with big men of big affairs—men who are actually accomplishing big things and who will leave the impression of their labors and their character upon their country for the good of coming generations.

At an altitude of 2100 feet, Sweetwater is a typical representative of the many promising embryo cities of this section. One peculiar characteristic of all this section is the perfect confidence expressed, not only in words, but with even more force through acts, in the ultimate attainment of great things for their respective towns. But when we analyze the conditions here we are forced to admit that their confidence, their faith in the ultimate possibilities, are not without good reason, for it appears that nature has been lavish in the bestowal of resources upon this land, and it would indeed be difficult to find more favorable conditions for the making of and for the support of a populous section of our country than exist through this immediate portion of Texas. Over a very large territory surrounding Sweetwater is found some of the most fertile lands in the State, and there is no better proof of this than the immense crops grown here during the last few years. Corn, cotton, wheat, oats, rye, barley, kafir corn, milo maize, millet, and, in fact, every crop common to this latitude do well here. Besides, every variety of vegetable, and most varieties of fruit also, grow and yield abundant crops. The old theory that this is an arid plain has been proven to be a mistaken one long ago, and it is found that there is ample rainfall here for agricultural purposes. The soil is different here from that of any other portion of the United States, and while the rainfall is actually not over 30 inches per annum, yet fertility of the soil, together with the peculiar climatic conditions, are such as to produce good crops.

Immediately surrounding this, Nolan county, are some 10 counties, which may be said to constitute tributary territory for the retail trade of Sweetwater and which have an aggregate area of about 10,000 square miles of as fine farming land as can be found anywhere. The total acreage of these counties is approximately 6,500,000, of which not exceeding 1,500,000 are now in cultivation, while probably not less than 6,000,000 acres of the total are good farming lands. Of this county alone, with 575,000 acres, only 140,000 are now in cultivation.

Sweetwater has three trunk railroads. The oldest of these, the Texas & Pacific, traverses the State from east to west; the Kansas City, Mexico & Orient crosses the State from northeast to southwest, and the Santa Fe from southeast to northwest, thus giving six outlets from Sweetwater, all being trunk lines. The Santa Fe, when completed, will give the shortest route to the Pacific coast of any old line, but the Kansas City, Mexico & Orient will, when completed, give a line shorter by 500 miles from Kansas City and all points east to the Pacific coast than any other route.

Sweetwater is a most desirable location for a great packing-house. Such a plant here could certainly rely upon drawing from five directions at least—the Santa Fe both southeast and northwest, the Texas & Pacific from the west, and the Kansas City, Mexico & Orient both northeast and southwest—and each of these lines penetrates extensive stock-raising sections, the latter-named reaching both cattle and sheep ranges. The cattle quarantine laws permit shipping stock here for feeding purposes from either side of the quarantine line, which runs near here.

But there are many other resources

SURPRISES AROUND SWEETWATER

Typical of the Transformation Under Way in Texas.

[Special Cor. Manufacturers' Record.]

Sweetwater, Tex., September 10.

The man who comes to this portion of Texas, which is here known as Central West Texas, for the first time will meet with surprises on every turn. Indeed, men who have lived in the State for many years, and who have followed newspaper reports of progress-making in material developments through every portion of the State, but have not visited this section, can have no idea of conditions here without seeing for themselves. The transition from a wild, open, grazing country, scarcely a generation ago, to one full of active, thrifty, progressive people, bent upon transforming these valleys and plains into the habitation of enlightened men, and creating a great agricultural, commercial and manufacturing center, is a thing that can only be understood and appreciated by those who come and see for themselves.

Towns and cities have sprung up here in the briefest time, but the most remarkable feature is the fact that in their building they present an evident purpose of permanency. Solid brick, stone and concrete blocks of business houses from one to five and six stories, and that, too, upon modern architectural lines which, in some instances, would put to shame cities of 100,000 to 250,000 people in the older States, are the type of buildings in this far southwest division of the United States.

here besides stock interests. The finest material for making plaster of paris is here in inexhaustible quantities. Lime rock for building, paving or making lime is all around in unlimited quantities and of the best quality. Brick clay and concrete material of fine quality also is abundant. Hides for making leather by the million and a fine tannin-producing plant grows here wild, and if cultivated would be a source of wealth. Salt water is obtained at a moderate depth carrying 25 per cent. and over of pure salt.

Added to all these natural resources is an enterprising, progressive class of business men who are willing and able to encourage any or all industrial enterprises in connection with practical and experienced men. Any man or company interested in either line mentioned in this letter will do well to correspond with R. A. Musgrove, secretary of the Progressive Club.

Sweetwater, however, is not idly waiting for outside capital to come and develop resources, but is pushing ahead as fast as means and experience permit. It has three strong banks, a roller mill, compress, oil mill, water-works, electric-light and ice plants, fire department, wholesale houses and general headquarters and machine shops of the Kansas City, Mexico & Orient Railroad. Educational matters are well advanced, and the leading Christian denominations have strong organizations and handsome houses of worship. Indeed, the intellectual and moral advancement has kept pace with the commercial and industrial development.

Abundant water supply, the high altitude and pure air make it a very healthy locality and a desirable place to build a home, while the other conditions herein enumerated make it an ideal place to locate for business purposes.

WM. C. CLOYD.

MAKING CEMENT PLASTER.

Simple Beginnings of a Growing Industry Near Quanah.

Secretary Porter A. Whaley of the Chamber of Commerce of Quanah, Tex., sends to the MANUFACTURERS' RECORD an article from a local paper describing a cement plaster industry at Acme, two miles from Quanah, which we republish at the request of Mr. Whaley, who looks to the creation of a wider interest, and, therefore, investigation into the gypsum of this western country and the building of additional factories. The article follows:

"The making of cement plaster from what the geologists call 'gypsite,' for want of a better name, is a comparatively new industry that has grown to great proportions in a short time. Gypsite is a grayish-white formation, looking very much like a bed of wood ashes. It is largely composed of gypsum in a decomposed or disintegrated state, so that it may be plowed as ordinary soil. This gives the plaster manufacturers who use gypsite a very decided advantage over those concerns north and east which use gypsum rock for making plaster, as the latter have to mine, crush and grind the rock—all expensive operations—before reaching the point where the gypsite manufacturer is when he has just simply plowed up his material.

"Plaster made from gypsite is commonly called 'cement plaster,' as it possesses the adhesive as well as some other qualities of Portland cement; but, unlike Portland cement, it is not hydraulic, and therefore it is not suitable for cisterns, dams or underground work, but for mortar for brick and stone work above ground, and particularly for wall plaster it is unsurpassed.

"The analyses of gypsite and of the mortar found in the Pyramids of Egypt are almost identical, and the latter mortar

is hard and firm after a lapse of 5000 years. So there need be no fear of the lasting qualities of cement plaster.

"The first gypsite known and made use of was in Salina county, Kansas, where in the early seventies the pioneer settlers on Gypsum Creek took the material from a small deposit and evaporated the moisture out of it in common iron kettles, their wash kettles, over the fire and used the plaster, thus crudely prepared, to plaster their sod houses and dugouts. We may remark here that the principal process in the manufacture of plaster from gypsite is to get the moisture out, and those old pioneers, with their primitive apparatus, made plaster that for hardness and adhesiveness is unsurpassed but by few of the modern mills.

"The credit for discovering the real value of gypsite for cement plaster and then making it for market belongs to the late James Sickler, well known to all the old residents of Quanah.

"About 1887 Mr. Sickler was operating a little mill near Gypsum City, Kans., making plaster of paris. The ledge of gypsum rock he was using being about exhausted, he was casting about for more material when his attention was called to the deposit of gypsite on Gypsum Creek. He immediately began experimenting, and was soon convinced that he could make from it as good a plaster, and much cheaper, than could be made from gypsum rock, from which material all the hard wall plasters were made up to that time. Accordingly a company was formed and the making of a new plastering material was begun and 'cement plaster' was put on the market for the first time. The business prospered from the beginning, and soon other deposits were located in Kansas and elsewhere, and other mills put in operation. All of the Kansas deposits, however, were small and soon became exhausted, so that now, we believe, there is but one small mill in operation in that State. At all events, for several years past Hardeman county, Texas, has enjoyed the proud distinction of being the home of the biggest and best cement mills in the world, and of furnishing the trade with more cement plaster than any other locality of the same area. And further, the quality is so good that it is put on the very best and finest buildings in the country. The millionaire's palatial mansion, the towering skyscrapers, and the massive postoffice and custom-houses of Uncle Sam are all plastered with Hardeman county cement plaster, than which there is no better plastering material made.

"There are three companies operating mills in Hardeman county. The Acme Cement Plaster Co., with office in St. Louis, is the pioneer, being the original concern which began the business at Gypsum City, Kans., back in the eighties. From the little primitive concern with crude, experimental machine set up under a shed, it has grown to millionaire proportions, with mills in Texas, Oklahoma, Michigan, Wyoming and New Mexico. The biggest mill in the world making plaster out of gypsite, located at Acme, Hardeman county, Texas, belongs to it. 'Acme' is the name used for its best-known brand.

"Next, both in size and age, comes the American Cement Plaster Co.'s plant, one mile north of Acme, with office at Lawrence, Kans. This is the successor of the Salina Cement Plaster Co., organized at Salina, Kans., about 1893. It, too, has prospered, and has mills in Texas, Oklahoma and Kansas. 'Agatite' is its most popular brand.

"The Texas Cement Plaster Co.'s mill is located three and one-half miles north of Quanah, with office at Oklahoma City, Okla. This is the latest concern to invade the cement-plaster field in this State, hav-

ing put its mill in operation five years ago.

"The combined capacity of the different mills of Hardeman county is from 800 to 1000 tons daily, and the future prospects of the industry are bright indeed. The immense deposits on Groesbeck Creek are practically inexhaustible. It is safe to predict that with the present rate of output, no person now engaged in the business will live to see the deposits worked out. There are also other deposits in the county that, when opened up by railroads, will offer the opportunity. Lands that a few years ago were deemed worthless because of the 'gyp' on them have been turned into a source of wealth as great as it was unexpected, and the formerly despised white deposits can now scarcely be bought at any price."

McCALL'S FERRY POWER.

Big Cement Contract Awarded for Work on It.

That the hydro-electric plants of the McCall's Ferry Power Co. at McCall's Ferry, Pa., will be rapidly pushed to completion is indicated in the recent awarding of a contract for 60,000 barrels of Portland cement to the Old Dominion Portland Cement Co., Fordwick, Va.

Early in the summer, on the petition of the Knickerbocker Trust Co., New York, the McCall's Ferry Power Co. was placed in the hands of a receiver. J. Edward Aldred, president of the Shawinigan Water & Power Co., Canada, was appointed receiver, and he immediately began plans looking to the reorganization of the company and the completion of plant.

The McCall's Ferry Power Co.'s plant is one of the largest in the country, and is to have a capacity of 100,000 horsepower. The big dam across the Susquehanna River is 3000 feet long, 40 feet high above the average water mark and 60 feet wide at the base. Construction work has been going on for several years, and practically all of the heavy work has been completed, there being only a comparatively small part of the work yet to be done before power will be delivered. Already it is stated that about \$10,000,000 has been expended on construction work, while \$3,000,000 or \$4,000,000 will be necessary to complete the undertaking.

The power will be sold over a wide area, and a number of contracts have already been made, including one with the Consolidated Gas, Electric Light & Power Co. of Baltimore and the United Railways Co. of Baltimore, to supply electric current for general purposes and street railway lines within a radius of 25 miles of the center of the city.

Building at Beaumont.

[Special Cor. Manufacturers' Record.]
Beaumont, Tex., September 10.

The enthusiasm and confidence established by the almost unanimous authorization of the bond issue of \$498,000 for the deepening of the Sabine-Neches Canal, necessary to make Beaumont a deep-water port, is impressively evidenced by the unusual activity in all lines at this time. Every day brings reports of some new step forward in the march of progress.

Building operations for the month of August show big gains. Contract has been awarded for the erection of a three-story brick office building on the corner of Orleans and Fannin streets. The building will be occupied exclusively by the J. M. Guffey Petroleum Co. and allied companies. It will face 60 feet on Orleans and 110 feet on Fannin. It will be built of modern pressed brick, with artificial stone trimmings, and will be arranged and fitted inside for the convenience and comfort of the army of employees of the Guffey Company. This contract went to Weber & Thomas, which firm has made contracts

during the month aggregating \$100,000 worth of new buildings.

C. T. Heisig has awarded the contract for the construction of a large building on Pearl street, to be occupied by Heisig & Norvell, wholesale grocers.

The S. H. Van Wormer estate is erecting a two-story brick building at Crockett and Park streets.

The People's Theater Co. has been organized and will at once erect a theater building on Bonham street. This will give Beaumont three playhouses.

Work has begun on the church building for the Presbyterians.

A number of new residences are under construction, and many more are planned. The architects and builders are busy. Progress and prosperity is evidenced in many ways.

The county tax rolls during the month show a substantial increase in taxable wealth, the total for the county being \$40,019,000, as compared with \$35,777,300 last year, an increase of 11.18 per cent. in one year. The taxable values of Jefferson county have multiplied about eight times during the past decade.

S. W. LARKIN.

American Cement Co. at Norfolk.

The American Cement Co., 15th and Chestnut streets, Philadelphia, Pa., has completed arrangements for building its proposed Norfolk plant, previously referred to by the MANUFACTURERS' RECORD. Several years ago the company secured the site, which is on the Southern branch of the Elizabeth River. This Norfolk plant will be owned by a separate company, incorporated under the title of the Norfolk Portland Cement Co., with a capital stock of \$850,000. It will include mill-constructed buildings and an equipment of machinery for a daily output of 2500 barrels of Portland cement. The plant will cost from \$600,000 to \$800,000, and the engineers in charge are the engineers of the parent company. The Virginia corporation has the following directors: Robert E. Griffith (president), J. F. Jiggins (treasurer), J. F. Long (secretary), Robt. W. Lesley, president of the American Cement Co., all of Philadelphia; Geo. W. Norris, Richard B. Taylor and J. M. Umstadter of Norfolk, Va.

Teachers Wanted.

T. W. Lewis, president of the Standard Business School Corporation of Denton, Texas, in writing about a school to be erected at a cost of about \$75,000, says: "We would like to have applications from teachers who reside in the South and who have had business experience."

The Maryland State Horticultural Society, Messrs. W. McCulloh Brown of Oakland, president, and C. P. Close of College Park, secretary and treasurer, has issued a printed statement of the public meetings and schedule of premiums for 1909. The annual exhibition of the society will be held in Baltimore December 2 and 3.

County Engineer T. J. Mahaffey of Harris county, Texas, has made a report upon a plan to drain 42,850 acres of land in drainage district No. 3 at an estimated cost for 300,000 linear feet of canal and ditches, cut-offs, rights of way, etc., of \$235,000.

The Board of Trade of Waycross, Ga., has issued an illustrated pamphlet setting forth the advantages of that city and of Ware county for the investor, homeseeker, business man and farmer.

Rice growers and millers are planning for a union of forces in Louisiana and Texas in the establishment of bonded warehouses.

AMERICAN COTTON CROP IN 1908--1909.

By COL. HENRY G. HESTER.*

The cotton crop of the United States for the year ending with the close of August, 1909, amounts to 13,825,457 bales, showing an increase over that of 1907-1908 of 2,253,491, over that of 1906-1907 of 314,475, and over that of 1905-1906 of 2,479,469 bales.

The increase, compared with last year, has been mostly in Texas and in the group of Atlantic States, the group of "Other Gulf" States showing a gain of only a shade over 2.3 per cent.

The figures are: Texas over last year (in round numbers), 1,598,000 bales; other Gulf States (embracing Louisiana, Mississippi, Arkansas, Tennessee, Missouri, Oklahoma, Utah, Kansas, New Mexico), ahead of last year 98,000; the group of Atlantic States (including North Carolina, South Carolina, Georgia, Florida, Alabama, Kentucky, Virginia), in excess of last year 557,000.

These constitute the face of the figures, but, considering the excess in weights, which averages 4.63 pounds per bale, the increase is equivalent to 126,000 more in bales of last year's crop. In other words, the present crop is equal to 13,951,000 bales of last year's weight.

Both of the previous thirteen million crops have been "topped"—that of 1906-1907 (13,510,982) by 314,475 bales, and that of 1904-1905 (13,565,885) by 259,572. Every-thing has been big this year but prices—crop, weights of bales, movement and consumption.

Conditions were ideal for spinners, but the reverse for the farmer, the bulk of the crop being sold at less than nine cents a pound for middling cotton, or, say, from \$10 to \$17 a bale under last year. A reaction did come during the concluding months of the season, but too late to affect any but a small part of the crop.

The average commercial value of the bales was \$49.46, against \$58.10 last year, \$53.02 the year before and \$56.56 in 1905-1906.

In money value the crop reached \$683,794,494 (not including the cottonseed), showing that, while the quantity of the crop marketed was 253,491 bales more than last year, the increase in money received was only \$11,509,401, equivalent to \$.11 per bale for the surplus. And yet, considering all the circumstances, if ever a crop should have sold at a good round price, it was the one under review.

Value of Commercial Crops.

The total value of the crop, compared with the previous five years, is as follows:

	Bales.	Values.
1908-09.....	13,825,457	\$683,794,494
1907-08.....	11,571,966	672,285,093
1906-07.....	13,510,982	716,352,265
1905-06.....	11,345,988	641,729,435
1904-05.....	13,565,885	628,195,359
1903-04.....	10,911,374	617,591,548

As stated in my last annual report, these values are based on actual transactions from week to week and month to month as the cotton crop was marketed, and compared with computations made by the secretaries of other exchanges at leading trade centers.

The values stated for the commercial crops are for cotton only, and do not, of course, include the value of the cottonseed, which, however, forms an important item. For example, the crop for the past year, as stated, was \$683,794,494, to which, if the value of the cottonseed, \$92,000,000, were added, the actual wealth-producing capacity of the Southern cotton farms would be \$775,794,494. Last year, 1907-1908, the value of cotton produced was \$672,285,093, and the cottonseed valued at \$87,000,000, making a total of \$759,285,093.

The foregoing values show a material difference from those stated by the Census Department, which may be accounted for by the fact that the Government data is made up at least five months before the season closes, when a considerable percentage of the crop remains to be disposed of. It happens that prices have advanced heavily since the census calculations were made.

In figuring out an approximation of the actual growth I find that, of the huge crop produced, comparatively little is left in the country. Practically farmers have, as a rule, made a "clean sweep." This was also the case last season, though at this time last year considerable quantities were visible in some interior sections. These, however, were bales of the new crop.

The Census Bureau reported ginnings of the new crop prior to September 1 last year of 402,229 bales, while the receipts of new cotton at ports were 105,962—a difference between the two of nearly 300,000 not shipped from the interior. The Texas ginnings of new crop prior to September 1 were, in round figures, 290,000 bales, of which 89,000 had reached the outputs—a difference between the two of 201,000.

American Mills.

North and South have had a season of unparalleled activity. In no past year have they consumed so much cotton, and, phenomenal as the extent of the business has been, it has not reached the limit of their capacity. They entered the season with the shadow of the panic, which curtailed their consumption last season, still upon them, and many factories which subsequently ran to their fullest capacity were late in getting under good headway. The awakening from the gloom and depression of last year has been complete, and not only has every previous record of consumption been surpassed, but the tendency is toward renewed activity in the increase of spindles. To put it tersely, in the language of a prominent Eastern mill official: "The cotton industry in the North and East is in a satisfactory condition, especially with the mills spinning the finer yarns. Several large new mills are in process of erection, and many already established are enlarging their facilities for making fine goods."

In the South the spindles in the active mills have been increased by 216,903, and there are over half a million new spindles in course of erection.

The consumption by Northern mills may be put at 2,500,000 bales, against 1,973,000 last year. They took, in round figures, 2,680,000, but of this they carried over in stock about 180,000 bales.

The comparisons for the past two years are as follows (in thousands):

	This year.	Last year.
Northern mills' stocks at beginning of year.....	300	376
Takings.....	2680	1897
Supply.....	2980	2273
Year's consumption.....	2500	1973
Mill stocks close season.....	480	300
North and South, the aggregate consumption of American cotton was.....	5,000,000	

*From his annual review as Secretary of the New Orleans Cotton Exchange.

bales, but they used also 150,000 bales of foreign cotton, their total consumption of all kinds reaching 5,210,000.

The following table shows the takings of American cotton for a number of years past:

Cotton Takings by American Mills.*

Year ending August 31.	Northern mills. Bales.	Southern mills. Bales.	Total Bales.	Crop. Bales.
1890.....	1,789,258	546,894	2,336,152	7,311,392
1891.....	2,027,362	604,661	2,632,023	8,652,597
1892.....	2,190,766	686,080	2,876,846	9,035,379
1893.....	1,687,286	743,848	2,431,134	6,790,265
1894.....	1,601,173	718,515	2,319,688	7,549,817
1895.....	2,083,839	862,838	2,946,677	9,891,251
1896.....	1,600,271	904,701	2,504,972	7,157,346
1897.....	1,804,680	1,042,671	2,847,351	8,757,964
1898.....	2,311,740	1,231,841	3,543,581	11,199,394
1899.....	2,190,065	1,399,399	3,589,464	11,274,849
1900.....	2,068,300	1,597,112	3,665,412	9,436,416
1901.....	1,967,570	1,639,531	3,607,101	10,383,422
1902.....	2,050,774	1,937,971	3,988,745	10,690,689
1903.....	1,967,635	2,000,729	3,968,364	10,727,559
1904.....	2,026,967	1,919,252	3,946,219	10,011,471
1905.....	2,282,145	2,163,506	4,445,650	13,565,885
1906.....	2,349,478	2,374,225	4,723,703	11,345,988
1907.....	2,526,390	2,439,108	4,965,498	13,510,982
1908.....	1,896,661	2,193,277	4,089,938	11,571,966
1909.....	2,680,118	2,559,873	5,239,991	13,825,457

*American cotton.

Consumption American Cotton.

(In Thousands of Bales.)

	This year.	Last year.
United States, North.....	2,500	1,973
United States, South.....	2,500	2,193
Foreign.....	8,097	7,946
Total American for year.....	13,157	12,112

American Cotton Crop for Four Years.

(Year Ending Close of August.)

	1908-09. Bales.	1907-08. Bales.	1906-07. Bales.	1905-06. Bales.
Port receipts.....	10,082,845	8,579,842	9,919,555	8,029,544
Overland to mills.....	1,256,618	859,450	1,252,216	1,008,461
Southern consumption.....	2,559,873	2,193,277	2,439,108	2,374,225
Less taken by Southern mills from ports.....	13,879,356	11,632,569	13,610,879	11,412,232
Total crops.....	53,899	60,603	99,897	66,244
Exports:				
Great Britain.....	3,545,060	2,952,434	3,771,902	2,883,748
France.....	1,063,887	890,141	907,162	776,667
*Continent and Channel.....	3,840,102	3,618,375	3,682,746	2,932,818
Canada.....	157,530	114,280	148,639	139,585
Total exports.....	8,566,569	7,575,230	8,510,449	6,732,798
Stock close of year.....	180,418	181,486	268,678	186,797
Northern mill takings.....	2,680,118	1,896,661	2,526,390	2,349,478
Average gross weight of crop per bale—pounds.....	513.30	508.67	515.02	510.91

*Including to Mexico, Japan and China, details of which are given in Export Table.

Net Receipts of Cotton at United States Ports.

(As per form in use by the Cotton Exchanges.)

	1908-09. Bales.	1907-08. Bales.
New Orleans.....	2,093,232	1,965,204
Galveston.....	3,657,156	2,633,429
Port Arthur and Texas City.....	241,828	109,300
Mobile and Pensacola.....	569,527	516,321
Savannah.....	1,539,105	1,531,592
Charleston.....	210,574	203,491
Wilmington.....	409,656	501,483
Norfolk.....	638,377	571,569
Baltimore.....	104,836	89,735
New York.....	19,181	4,228
Boston.....	15,822	15,822
Philadelphia.....	9,848	9,848
Jacksonville and Fernandina.....	29,413	9,413
Newport News.....	10,785	10,785
Brunswick.....	325,127	214,495
Laredo, Eagle Pass and El Paso, Texas.....	10,428	2,299
Pacific coast ports.....	171,616	159,382
Minor points.....	33,906	5,783
Total port receipts.....	10,062,845	8,579,842

NOTE.—Light weight round bales have in all cases been included in receipts as half-bales.

Exports.

	1908-1909. Bales.	1907-1908. Bales.	Total. Bales.
Great Britain.....	3,545,060	2,952,434	6,497,494
France.....	1,063,887	890,141	1,954,028
*Continent and Channel.....	3,840,102	3,618,375	7,458,477
Canada.....	157,530	114,280	271,810
New Orleans.....	928,571	268,583	1,197,154
Galveston.....	1,490,180	424,306	1,914,486
Mobile and Pensacola.....	140,314	197,396	337,710
Savannah.....	171,224	91,227	262,451
Charleston.....	5,725	658,746	664,471
Wilmington.....	112,854	8,731	121,585
Norfolk.....	33,020	3,021	36,041
Baltimore.....	54,282	6,545	60,827
New York.....	188,518	50,410	238,928
Boston.....	99,982	7,164	107,146
Philadelphia.....	56,145	13,396	69,541
Newport News.....	1,636	1,636	3,272
Brunswick.....	193,696	89,376	283,072
San Francisco.....	82,528	82,528	165,056
San Diego.....	79,128	79,128	158,256
Port Townsend.....	70,589	16,089	86,678
El Paso, etc.....			
Totals.....	3,545,060	1,063,887	4,608,947
Last year.....	2,952,434	890,141	3,842,575
Year before.....	3,771,902	907,162	4,679,064

*Included under Continent are exports to Mexico and Japan and China, which are to Mexico this year, 620 from New Orleans, none from Galveston, 35,799 from Texas City, 599 from New York; 16,428 from Laredo, El Paso, Eagle Pass, etc., a total of 52,928, against 5672 last year and 843 the year before last; to Japan and China, 201,621 from San Francisco, Portland and other ports, against 191,392 last year and 254,749 the year before.

COTTON CONSUMPTION IN THE SOUTH.

Nothing Left Undone to Assure Complete and Accurate Data from all Establishments.

In my last annual report I said "the depression of the past year was considered only temporary," and that there was "an underlying belief that history, which has invariably chronicled increased prosperity following every period of depression in the cotton manufacturing industry, would repeat itself." A glance at the table below, under caption of "The Course of Consumption in the South," proves how remarkably close this is to actual facts. The year just closed has been no exception to the rule, though the recovery has been more rapid than expected.

The total consumption of Southern mills of 2,559,873 bales is not only ahead of last year by 306,596 bales, but it exceeds year before last, which, up to that time, was the largest ever recorded by 120,765. Hardly beyond the shadow of the gloom and depression of a panic, confidence and hope have again sprung into existence, and the erection of new looms and spindles has commenced, and more are projected. Twenty-

one new mills are building in the Southern States, and, with the additions going on in old establishments, 10,851 new looms and 511,294 new spindles are under way.

The facts concerning this remarkable year in cotton consumption embraced in the tables annexed speak for themselves in terms which preclude the necessity for extended comment, but it is safe to say that, had they been estimates, instead of plain, unvarnished truths, even extremists would have been justified in classing them as exaggerations. It will be remembered that in my report of September, 1905, I stated the consumptive capacity of the Southern spindles at between 2,500,000 and 2,600,000. Then the total spindles, including 520,556 building, was 9,205,949; now the total, including 511,294 building, is 11,255,787, or 22 per cent. greater. We have brushed 2,600,000 bales closely during the past year, and this close on the heels of the panic, with 215 out of the total of 786 active mills from one to two months late in getting under headway. Most of the "new not complete" spindles will be in working order before the coming year is closed, and with these, on the basis of the 1904-1905 consumption per spindle, the capacity of the Southern mills will be something like 2,800,000 to 2,900,000 bales.

Referring to the details given in the tables annexed, I desire to emphasize the fact that they are in no sense guesses or estimates. The list of mills in the South was made up after many weeks of patient and careful investigation, by correspondents in every State and by comparison also with the publications of the "Textile World" and "Blue Book" just issued, which are considered standard authorities as compilers of mill directories, so that I have had the benefit of their investigations as well as of my own experience of many years in locating the mills. Every mill in the South has reported to me direct but eight, out of 833 regular cotton mills, and these (of which I have obtained data sufficiently close to cover all the purposes of an actual census) used but an infinitesimal fraction of the total quantity consumed. In addition, I have secured returns from every woolen mill, batting and mattress factory and every knitting mill that has spindles and used raw cotton. In fact, I have knocked at the doors of every institution of any kind in the South that uses raw cotton, and have invariably met with kind and prompt responses.

Consumption of Foreign Cotton in the South.

	Mills.	This year.	Last year.
Alabama.....	1	117	338
Georgia.....	1	1541	1490
North Carolina.....	6	1904	1651
South Carolina.....	4	2414	1382
Virginia.....	..	..	..
	12	5976	4861

Equal in bales of American weights to 8077 this year and 6331 last year.

Southern Spindles Consuming Foreign Cotton.

	In operation.
Alabama.....	1,589
Georgia.....	21,369
North Carolina.....	16,630
South Carolina.....	21,999
	61,637

Total in operation 61,637 spindles, against last year 71,308.

How the cotton manufacturing industry has advanced is best told by the following showing:

The yearly net additions are new mills, less deductions on account of burnt, dismantling etc.

Total mills in the South consuming raw cotton September 1, 1890 (old, new and not complete).....	336
1890-1891, net additions.....	4
1891-1892, ".....	16
1892-1893, ".....	13
1893-1894, ".....	17
1894-1895, ".....	49
1895-1896, ".....	49
1896-1897, ".....	7
1897-1898, ".....	9
1898-1899, ".....	59
1899-1900, ".....	113
1900-1901, ".....	25
1901-1902, ".....	28
1902-1903, ".....	24
1903-1904, ".....	22
1904-1905, ".....	15
1905-1906, ".....	17
1906-1907, ".....	30
1907-1908, ".....	19
1908-1909, ".....	8

Total mills in the South consuming cotton (old, new and not completed) September 1, 1909..... 841

An increase since 1890 of 505 mills. I have used the words "mills consuming cotton" because there are factories known as woolen mills, etc., each consuming considerable raw cotton annually, and which naturally are classed as cotton consumers.

In this connection the record of spindles since 1890 may prove of still more interest:

Southern Cotton Spindles.

1890.....	295,359
1870.....	338,869
1880.....	561,260
1890.....	1,819,291
1895.....	3,177,310
1900.....	6,267,163
1901.....	6,531,894
1902.....	7,512,982
1903.....	8,248,275
1904.....	8,615,369
1905.....	9,206,949
1906.....	9,760,192
1907.....	10,538,095
1908.....	10,661,308
1909.....	11,255,787

Roster of Mills.

Total number last year.....	833
Crossed out and merged into other concerns.....	26
	859
New and uncompleted added to list.....	18
Total number cotton mills in the South.....	841

The record of spindles in the South shows:

	This year.	Last year.
Total in operation.....	10,551,773	10,334,867
Idle.....	192,720	57,294
New, not completed.....	511,294	269,237
Grand total.....	11,255,787	10,661,308

showing an increase of spindles, active, idle and not completed over last year of 594,479 and a net gain of spindles at work of 216,906.

Southern Cotton Mills in 1908-1909.

	MILLS.	In operation.	Idle.	New, not completed.
	Total.	Old.	New.	
Alabama.....	71	67	..	4
Arkansas.....	2	..	..	..
Georgia.....	156	142	3	6
Kentucky.....	10	8	..	1
Louisiana.....	5	5	..	..
Mississippi.....	23	20	..	3
Missouri.....	3	3	..	..
North Carolina.....	333	307	5	13
South Carolina.....	180	175	1	3
Tennessee.....	36	22	..	4
Texas.....	17	15	..	2
Oklahoma.....	1	1	..	..
Virginia.....	14	11	..	3
Total.....	1841	1778	9	421
Last year.....	833	781	5	17
Year before.....	814	762	6	29

*Including mills commenced this year and those under this head last year not yet completed.

†Including one mill for foreign cotton in operation.

	LOOMS.	Idle.	Not complete.	Total.
	Active.			
Alabama.....	16,612	722	60	17,394
Arkansas.....	240	..	..	240
Georgia.....	36,690	592	2,394	39,676
Kentucky.....	1,387	..	..	1,387
Louisiana.....	2,266	..	..	2,266
Mississippi.....	4,501	520	13	5,034
Missouri.....	994	..	..	994
North Carolina.....	51,479	1,457	3,520	56,456
South Carolina.....	89,285	4,265	..	93,550
Tennessee.....	4,148	638	135	4,921
Texas.....	2,508	..	80	2,588
Oklahoma.....	5,700	..	..	5,700
Virginia.....	9,443	98	444	9,985
Total.....	219,563	4,557	10,851	234,971
Last year.....	220,289	1,213	2,543	224,045
Year before.....	215,889	1,349	7,166	224,394

	SPINDLES.	Idle.	Not complete.	Total.
	Old.	New.		
Alabama.....	957,623	956,255	..	1,913,878
Arkansas.....	14,624	14,624	..	29,248
Georgia.....	1,930,432	1,774,845	15,140	3,720,417
Kentucky.....	89,753	87,752	..	177,505
Louisiana.....	89,352	89,352	..	178,704
Mississippi.....	181,441	161,817	19,176	362,434
Missouri.....	38,456	38,456	..	76,912
North Carolina.....	3,231,564	2,956,069	21,500	6,209,133
South Carolina.....	3,971,469	3,777,373	5,400	7,754,242
Tennessee.....	290,840	253,060	18,404	552,304
Texas.....	112,336	97,284	12,072	221,692
Oklahoma.....	5,700	5,700	..	11,400
Virginia.....	342,198	317,166	7,032	666,396
Total.....	11,255,787	10,509,733	42,404	21,807,924
Last year.....	10,661,308	10,321,675	13,192	20,996,175
Year before.....	10,598,085	9,869,717	30,280	20,498,082

†Including spindles added to old mills less spindles thrown out during year, and new not completed mills of last year which started operations this season.

‡Includes spindles being added to old mills as well as those in new concerns.

*Exclusive of 61,637 spindles using foreign cotton, say 1589 in Alabama, 21,369 in Georgia, 16,630 in North Carolina, 21,999 in South Carolina.

Southern Consumption of American Cotton Year Ending August 31.

(Actual figures reported by the mills.)

States.	*No. mills.	†Looms.	‡Spindles.	1908.	1909.
Alabama.....	67	16,612	936,255	251,871	265,610
Arkansas.....	2	240	14,624	6,038	8,418
Georgia.....	145	36,690	1,789,985	553,119	478,362
Kentucky.....	8	1,387	87,752	26,290	24,526
Louisiana.....	5	2,266	89,352	17,244	13,913
Mississippi.....	20	4,501	161,817	38,691	35,162
Missouri.....	3	994	38,456	14,826	8,577
North Carolina.....	311	51,479	2,977,569	759,285	628,881
South Carolina.....	176	89,285	3,782,773	796,352	624,116
Tennessee.....	22	4,148	253,060	69,211	60,067
Texas.....	15	2,508	97,284	42,456	33,781
Oklahoma.....	1	5,700	5,700	2,568	1,614
Virginia.....	11	9,443	317,166	77,912	74,539
Totals.....	1786	219,563	10,551,773	2,559,873	2,193,277

Less consumed and taken from Southern seaports and included in port receipts..... 53,899

Net consumption to be added to crop..... 2,505,974

*Mills in operation only. For total in South see other table.

†Employed in mills in operation. For total looms and spindles in South see other table.

‡Exclusive of one mill in operation using only foreign cotton in North Carolina.

§Spindles working American cotton only. For statement foreign see elsewhere.

Consumption of Southern Mills in Pounds.

The following shows the consumption of American cotton by Southern mills during the past two years in pounds of lint cotton and the average net weights per bale:

	Pounds (Lint).	*Average weights.
	This year.	Last year.
Alabama.....	120,648,915	98,067,517
Arkansas.....	2,986,237	1,975,770
Georgia.....	290,571,462	225,704,625
Kentucky.....	12,754,927	11,666,730
Louisiana.....	8,195,611	6,573,005
Mississippi.....	18,532,790	16,793,491
Missouri.....	7,195,143	4,067,289
North Carolina.....	355,981,920	293,192,851
South Carolina.....	327,550,499	292,966,579
Tennessee.....	33,245,904	28,677,571
Texas.....	21,464,076	16,859,798
Oklahoma.....	1,250,629	798,930
Virginia.....	36,517,677	34,941,034
Total.....	1,206,895,780	1,032,285,100

*Exclusive of bagging and ties.

†Not including foreign cotton.

United States Spinners' Takings American Cotton.

	1908-1909.	1907-1908.
Total crop United States.....	13,825,457	11,571,966
Stocks at ports beginning of year.....	181,496	268,678
Total supply.....	14,006,953	11,840,644
Exported during year (American).....	8,419,049	7,469,959
Sent to Canada.....	137,520	114,280
Total.....	8,586,569	7,584,239
Less American cotton returned from foreign ports:		
To New York.....	16	5,770
New Orleans.....	50	..
Boston.....	..	250
Portland, Maine.....	66	6,020
Burnt at ports.....	8,586,503	7,569,210
Stock at close of year.....	180,418	181,496
Total takings for consumption, United States.....	5,239,991	4,089,908
Of which:		
Taken by spinners in Southern States.....	2,559,873	2,193,277
Taken by Northern spinners.....	2,680,118	1,896,631

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Houston, Tex.—City will issue \$100,000 street-paving bonds.

Midlothian, Tex.—Midlothian Road Improvement District voted \$75,000 road-construction bonds.

Bonds to Be Voted.

Charleston, W. Va.—Three districts of Kanawha county will vote on \$180,000 bonds for road construction.

Hendersonville, N. C.—City votes September 25 on bonds for cement sidewalks.

Lexington, N. C.—Lexington township will vote on \$100,000 bonds for macadamizing roads.

Nashville, N. C.—Nash county will vote on \$20,000 road-improvement bonds.

Roanoke, Va.—City will vote on \$285,000 bonds for street improvements.

Contracts Awarded.

Baltimore, Md.—State Roads Commission awarded contracts for road construction costing about \$130,000.

Chattanooga, Tenn.—Board of Public Works awarded contract at about \$3300 for 950 feet of chert roadway, etc.

Danville, Ky.—Boyle county awarded contract for five miles of road.

Griffin, Ga.—City awarded contract for 85,000 square yards vitrified-brick paving; cost \$70,000.

Hampton, Va.—City awarded contract for vitrified-brick paving to cost \$100,000.

Jacksonville, Fla.—County Commissioners awarded contract for one mile of brick paving to cost \$15,000 to \$20,000.

Kenova, W. Va.—City awarded paving contract.

Winston-Salem, N. C.—City awarded contract for 36,000 square yards bitulithic paving.

Contracts to Be Awarded.

Atlanta, Ga.—City opens bids September 20 for creosoted wooden-block paving on Marietta and Forsythe streets.

Brandywine, W. Va.—Road Superintendents will open bids September 18 for constructing 5880 feet of road.

Bristol, Tenn.—Sullivan county opens bids October 9 for grading and macadamizing 60 miles of road.

Dallas, Tex.—Dallas county opens bids September 18 for constructing and repairing various roads.

Huntsville, Ala.—City opens bids October 19 for paving, curbing and guttering on Eustis street.

Jacksonville, Fla.—Board of Public Works will invite bids for sidewalk paving on Union street.

Jennings, La.—City will construct concrete sidewalks and curbing on 20 principal streets (about 15 miles proposed).

Lake Providence, La.—City will contract for four miles of sidewalk.

Lenoir, N. C.—Lenoir & Blowing Rock Turnpike Co. will construct a 25-mile macadam road to cost from \$75,000 to \$100,000.

Newbern, N. C.—City opens bids September 20 for 20,000 feet of curb.

Parkersburg, W. Va.—City opens bids September 22 for cement curbing and paving on certain streets; appropriation for curbing \$6000.

Rome, Ga.—City will expend \$100,000 for vitrified-brick paving on East 1st street.

Texarkana, Tex.—Bowie county Road

District No. 1 opens bids October 7 for construction of roads and bridges.

Vinita, Okla.—City opened bids September 14 for grading, curbing, guttering and paving South Wilson street.

Washington, D. C.—Geo. E. Garrett, 605 12th street N. W., completed surveys for road from Washington to Alexandria, Va.; estimated cost \$40,000.

To Blowing Rock.

The visit of representatives of the Lenoir & Blowing Rock Turnpike Co. to Charlotte for the purpose of studying the roads of Mecklenburg county, North Carolina, brought out the announcement that the company expects shortly to spend between \$75,000 and \$100,000 in building a macadam road from Lenoir to Blowing Rock, a distance of about 25 miles. Commenting upon the fact that the construction of this road will bring the beautiful mountain section of Blowing Rock into close touch with the rest of the world, the *Charlotte Observer* says:

"Of peculiar interest to Charlotte people is the opportunity this road will afford to reach this unrivaled country by automobile within a half-day's time. The building of the automobile highway from New York to Atlanta will result in the turning south of a great throng of automobilists in search of recreation and pleasure. There will be a constant demand for side trips, particularly into such scenic mountain country as that about Blowing Rock. Just here will enter the convenience of this road to Lenoir and beyond. The distance from Charlotte to Blowing Rock is 98 miles. From Charlotte to Lowesville, across the new Rozzell's ferry bridge, which is to be finished certainly by the middle of next month, is 18 miles. This is all macadam except a short stretch near the Catawba River, and is as fine as is to be found anywhere. From Lowesville to Denver, the next stage of the journey, is 10 miles, and from Denver to Newton, 18 miles. All of this is good country road which, save in bad, rainy weather, is easily covered by motor cars of average quality. The distance from Newton to Hickory is 10 miles, and from Hickory to Lenoir 20 miles. This road north of Hickory is said to be quite poor, but effort is now being made to better it. The chairmen of the boards of county commissioners of Catawba and Caldwell counties, as well as the commissioners themselves, are very much interested in improving the roads, and there is substantial hope, with the assistance of the leading business men of the two counties, that some effective work will be done within the coming year. The distance from Lenoir to Blowing Rock, as previously stated, is 22 miles. Anyone leaving Charlotte at 6 o'clock in the morning in a good car should reach Blowing Rock by 4 o'clock in the afternoon without any great trouble. This trip promises to be one of the most popular in the State when the projected macadam highway from Lenoir to Blowing Rock is completed."

In Southern Appalachians.

In order to stimulate good-roads construction in the Southern Appalachian Mountains, the Highway Division of the North Carolina Geological and Economic Survey has been conducting for the past six weeks a series of good-roads meetings through the various counties of Western North Carolina. In order to more thoroughly arouse the interest for good-roads work in the Southern Appalachian country, arrangements have been made for a convention to be held in Asheville Octo-

ber 5, 6 and 7, which will take up this most important question: How can we obtain improved roads in the Southern Appalachian Mountains? There will be many noted speakers at this convention who are thoroughly competent to discuss the various phases of good-roads work.

Nursing a Bond Issue.

Mr. E. A. Stephenson, secretary of the Board of Trade of Jackson, Miss., writes to the MANUFACTURERS' RECORD:

"We shall appear before the Board of Supervisors of the county today to encourage the board to issue \$250,000 in bonds for road building in this county. We have 1200 miles of roads to be built, and it will be our intention to encourage this bond issue from time to time in order that there may be roads built over the entire county. The amount of bonds that can be issued at present is about \$700,000, as our taxable property in the county is approximately \$18,000,000, and we have outstanding bonds to the amount of \$237,000."

Big Contracts Let.

Engineer F. G. Brady, writing to the MANUFACTURERS' RECORD from Bristol, Tenn., says that contracts have been let in Jefferson county, Tennessee, to Borchers & McCreary, Kingville, for the grading of about 35 miles of road, and to F. E. Brady, Knoxville, to macadamize about 60 miles of road. On October 9 contract will be let at Bristol, Sullivan county, for the grading and macadamizing of about 60 miles of road.

Notes.

A good-roads convention is to be held at Winston-Salem, N. C., September 17.

About \$2000 is being spent on the roads in the neighborhood of the town of Lookout Mountain, Tenn.

The Commercial Club of Kingfisher, Okla., has offered to raise \$1 for every \$4 raised by any township in Kingfisher county for good roads.

Cross, Woodruff and Crittenden counties, Arkansas, are agitating the construction of a macadam highway that will link Memphis, Tenn., and Little Rock.

Officials of Alexandria county, Virginia, are considering a plan for an issue of \$400,000 of bonds to place in first-class condition 41 miles of main roads and 31 miles of side roads in the county.

The State Good-Roads Convention at Nashville, September 21-22, called by Governor Patterson, is expected to give a great impetus to the movement for the improvement of public highways of Tennessee.

The South Baltimore Car Plant.

Reports from Pittsburg state that Henry C. Frick and A. W. Mellon, president of the Mellon National Bank of that city, are interested in financing a proposed consolidation of steel-car companies. It is stated these companies include the Standard Steel Car Co. of Pittsburg and other prominent enterprises, including the South Baltimore Steel Car & Foundry Co., for which, it has been stated, the Standard company is negotiating. The purchase of the South Baltimore plant (at Curtis Bay) will result, it is understood, in the expenditure of several hundred thousand dollars to equip it for the manufacture of all-steel cars, in addition to the steel underframe cars now being made. Wm. H. Grafflin, 208 Vickers Building, Baltimore, is chairman of the creditors' committee, which recently purchased the South Baltimore Steel Car & Foundry Co., and can give information regarding the proposed consolidation.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

Bradford Worsted Spinning Co.

The Bradford Worsted Spinning Co., Louisville, Ky., which was organized last February, has found it necessary to increase its capacity, and has awarded contracts for additional building and machinery. This addition will be of brick, three stories high, 80x240 feet, providing 100,000 feet of floor space. The additional machinery will include a 700-horse-power Corliss engine, four 200-horse-power return-tubular boilers with direct-driven generator and motors, and machinery for wool scouring, carding, combing, drying, drawing, spinning, twisting, reeling and winding. The spinning spindles will be increased from 2200 to 7000, with 3500 twisting spindles. The company will manufacture worsted yarns from the raw material, and its additional equipment is expected to be ready for operation before the end of the year. The entire contract for machinery has been awarded to Edward Jefferson & Bro., 127 South 2d street, Philadelphia, Pa.

The Newberry Mill Enlargement.

The Newberry (S. C.) Cotton Mill has awarded contracts for the 10,000 spindles, 300 looms and accompanying machinery to be installed in its three and four-story 80x180-foot addition, detailed last month. This equipment will be furnished as follows: Looms, cards and drawing, Whitin Machine Co., Whitinsville, Mass.; roving frames, Providence (R. I.) Machine Co.; slashers, Cohoes (N. Y.) Foundry and Machine Shop; picking, Potter & Johnston, Pawtucket, R. I.; spoolers, Easton & Burnham, Pawtucket, R. I.; warpers, T. C. Entwistle Company, Lowell, Mass.; brush and folder, Curtis & Marble Machine Co., Worcester, Mass. The Newberry enlargement will cost about \$250,000, and the architects in charge are Lockwood, Greene & Co., 93 Federal street, Boston.

The Patterson Mills Co.

The Patterson Mills Co. of Roanoke Rapids, N. C., has plans for its buildings, and will award construction contract within two weeks. Its buildings will include the main mill, 105x508 feet, two stories high, 90 tenement cottages and six overseers' dwellings. This mill is to be equipped with 22,000 spindles, 750 looms, dyeing and finishing machinery, etc., driven by 1000 electrical horse-power, on the production of gingham. Messrs. Lockwood, Greene & Co., 93 Federal street, Boston, are the architects in charge. The organization and plans of the Patterson Mills Co. were announced several months ago by the MANUFACTURERS' RECORD. S. F. Patterson is general manager.

The Jewel Cotton Mills.

The Jewel Cotton Mills of Thomasville, N. C., mentioned last week, has incorporated with a capital stock of \$250,000. This company will erect a 78x300-foot brick and cement building and install 5000 spindles for manufacturing cotton yarns. It will install a steam plant and electric generator for 200 horse-power or buy electricity from the Thomasville transmission of the Southern Power Co. of Charlotte, N. C. The mill buildings are being

planned for doubling equipment in future. J. L. Armfield of Thomasville is president and T. J. Lillard of Charlotte, N. C., is secretary-treasurer.

To Plan Big Mill.

The Entwistle Manufacturing Co., William Entwistle, president, Rockingham, N. C., has engaged Stuart W. Cramer of Charlotte, N. C., as engineer and architect in charge of planning, building and equipping the company's proposed mill. This plant will have 40,000 spindles, 1000 looms, etc. The organization of the company with a capital stock of \$500,000 was reported last month.

A Knit Goods Bleachery.

The Maline Knitting Mills Co. of Winston-Salem, N. C., will build a bleachery with a daily capacity of 30,000 pounds of knit goods. It has awarded the construction contract to J. F. Ange of Winston-Salem, and the plans call for a building, mill constructed, of brick, 60x170 feet, equipped with electric-lighting fixtures, steam-heating plant, bleachery machinery, etc.

The Mascot Cotton Mill Co.

The Mascot Cotton Mill Co. of Bessemer City, N. C., has been organized with a capital stock of \$50,000 to succeed the Bessemer City Cotton Mills, equipped with 9000 spindles and 406 looms for manufacturing chambrays, ginghams, etc. Probably the new company will build a water tower and improve its dyehouse. C. W. Fuller is president and C. B. Armstrong treasurer.

The National Cotton Mills.

The National Cotton Mills of Lumberton, N. C., has completed the installation of the additional spindles reported previously. This company has installed 5520 spindles, thus increasing to 11,760 spindles for manufacturing knitting yarns. It has paid for the new machinery out of earnings, besides paying a quarterly dividend of 3 per cent.

Increasing to 10,000 Spindles.

The Georgia Manufacturing Co. of Columbus, Ga., has contracted for additional machinery to increase its equipment to 10,000 spindles and 250 knitting machines. It is operating 4200 spindles, 240 knitting machines, etc., and the new equipment will double the capacity of the spinning department.

The Thistle Mills.

Messrs. Albert A. Blakeney, Redmond C. Stewart and Frank B. Smith have incorporated the Thistle Mills of Ilchester, Md., with a capital stock of \$150,000. This company will continue an established plant for manufacturing cotton and woolen goods.

Great Southern Cotton Mill.

The Great Southern Cotton Mill of Fort Smith, Ark., will be organized by S. S. Lowrey, 12 North 6th street, and Wm. H. Talmage, both of Fort Smith. They have not purchased any machinery, and are prepared to correspond relative to estimates.

The Oconee Mills Co.

The Cheswell Cotton Mill Co. of Westminster, S. C., has increased its capital stock from \$200,000 to \$300,000 and changed its title to the Oconee Mills Co. It has an equipment of 10,272 ring spindles, 362 looms, etc.

Enlarging the Calvine Mill.

The Chadwick-Hoskins Company of Charlotte, N. C., is proceeding with the construction of its addition to the Calvine

Mill, previously reported as to be increased by 7000 spindles. This addition will be two stories high, 50x200 feet, and when equipped will give the Calvine plant a total of 20,000 spindles and 520 looms.

To Manufacture Artificial Silk.

Shr. E. Hertlein of 524 Broadway, New York, contemplates locating an artificial silk mill at Baltimore, Md. The plant would require a 10-acre site and a daily supply of 750,000 gallons of soft water.

Wants Knitting Machinery Information.

L. P. Mullinax of Troy, S. C., contemplates establishing a knitting mill, and requests information and prices on the necessary machinery and other equipment.

Textile Notes.

The Acme Knitting Mills of Raleigh, N. C., will be established by J. E. Matthews.

F. S. Evans of Greenwood, S. C., plans the organization of a \$300,000 company to build the cotton mill lately mentioned.

A. W. Noble, Mayor of Laurel, Miss., is negotiating with manufacturers who contemplate building a cotton mill at Laurel.

Messrs. John W. Cannon and J. F. Cannon of Concord, N. C., and Chas. G. Hill of Winston-Salem, N. C., will form a company to build a cotton mill at Thomasville, N. C. This proposition was mentioned last week.

The St. Louis (Mo.) Knitting Co. has been incorporated with a capital stock of \$2000 by Chas. A. Schreiber, Wilbur H. Close and Felix Cornitius.

The Pacolet Finishing Co. (owned by the Skyland Hosiery Co.) has completed its dyeing and finishing plant previously detailed. This plant has a daily capacity of 2000 dozen pairs of hose, and is located at Skyland, near Hendersonville, N. C.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

To Begin Operations in October.

With reference to its proposed development of timber lands in Tennessee, the Prendergast Company of Marion, O., advises the MANUFACTURERS' RECORD that it has nearly completed the construction and equipment of its plant, and expects to begin active operations by October 1. The company owns approximately 55,000 acres of timber land in Polk county, consisting of short-leaf yellow pine, white pine, poplar, oak, hemlock, etc., and has installed a large double-band sawmill, planing mill and drykiln. It has also purchased two 50-ton and one 70-ton Shay locomotives, with 40 30-ton flat cars for logging purposes.

Dealers Elect Officers.

At the annual convention of the Arkansas Association of Lumber Dealers at Little Rock last week the following officers were elected for the ensuing year: L. R. Putman, Fayetteville, president; J. E. Harris, Wynne, vice-president; H. F. Rieff, Little Rock, secretary-treasurer.

Buys Phosphate Lands.

A dispatch from Centerville, Tenn., announces the purchase by Hoover & Mason, Chicago, of 20 acres of phosphate land at Shipp's Bend, near Centerville, for a consideration of \$32,000. The property was purchased from J. S. Prince and W. H. Phillips, and is estimated to contain 175,000 tons of phosphate.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

ST. LOUIS INTERURBANS.

Illinois Traction Co. Building Bridge and Terminal Stations There.

The Illinois Traction Co., which operates several hundred miles of interurban electric railways in Illinois, is spending a large amount of money at St. Louis, Mo., to gain entrance to that city and its extensive connections. It is estimated that the improvements in St. Louis will cost altogether about \$5,000,000. Canadian capital is backing the enterprise, prominent men in Montreal being interested.

The work includes a large bridge over the Mississippi River between St. Louis and Venice, Ill. The bridge enters St. Louis at the foot of Salisbury street, and is being so rapidly finished that it is expected to be ready for use by December 15, so that by the first of the new year the company can operate its cars into St. Louis from Broadway and Salisbury streets to the terminal at 12th street and Lucas avenue. Some litigation, however, has been started by other railroads which are crossed, and may delay the opening of the line. Besides the passenger station mentioned, there will be freight yards at the foot of Salisbury street, besides passenger stations at two other points. The most important of the passenger stations is that projected for the future in the vicinity of Broadway and Washington avenue. Freight as well as passengers will be handled there, and it is proposed to have other lines meet those of the traction company at that point, so that all the interurban railways entering St. Louis will have a union depot.

The character of line and equipment which the company is providing is to be first-class. It is stated that the rails are 118 pounds to the yard, laid on white oak ties which are bedded in a foot of concrete. For the suburban service pay-as-you-enter cars have been ordered, but for the limited trains other equipment will be provided, the day coaches being long and roomy. Sleeping cars of a new type are also being constructed at St. Louis for the through service.

The headquarters of the company are at Champaign, Ill., and W. B. McKinley is president.

NEW ORLEANS TO THE GULF.

Electric Railway Contract Let for High-Speed Line to Grand Isle.

Considerable progress appears to be making to carry out the plan for an electric road between New Orleans and Grand Isle, on the Gulf coast of Louisiana. The distance is about 50 miles, and J. W. T. Stephens, chief engineer, who is pushing the plans for the New Orleans & Seashore Railway, is reported as saying that actual construction will begin within 60 days. It is to be a double-track electric railway, and will cost about \$2,000,000. One-hour service is to be established between Amesville and Grand Isle, connection from the former point being made via the Algiers & Gretna Electric Railway, so that the service from New Orleans to the coast will demand about an hour and a half.

Mr. Stephens is further reported as saying that the line will restore many plantations now practically abandoned because they have no transportation facilities. In addition to this, about 58,000 acres of land can be drained and made available. This land will be traversed by the railroad, which for its first 22 miles runs through an agricultural country and then through woods and prairie land, the latter part being that which requires draining. Not

more than three miles of trestle will be necessary, but five lift bridges are needed at Waterways. The La Fourche Levee Board, it is stated, has granted right of way through the prairie and woods lands, and has given the right to use all shells and other necessary material for ballast. Capital is reported raised to fulfill the project.

A Chicago syndicate, Mr. Stephens is further reported as saying, will invest nearly \$1,000,000 in a hotel and other buildings, including provision for amusements, as soon as work starts on the railroad, for which contract has been awarded to Black & Laird, who will soon begin clearing right of way.

James W. Porch, president pro tem. of the New Orleans Belt Railway, is president of the new company, and the other directors are J. H. Menge, Jr., Lamar Quintero, D. W. Benson, L. A. Marrero, A. M. Halliday and O. M. Dunn.

BIG RAILROAD PROJECTED.

A Large Steel Company Contemplates Building Line in Virginia and West Virginia.

Concerning reports which have been current for some time of plans to build a railroad from the Chesapeake & Ohio Railway to a connection with the Baltimore & Ohio Railroad, Henry A. Slaven of Monterey, Va., says that the project is that of a large steel company which has been investigating the iron ores of that section of the country during the past three years and has secured control of many acres of ore-bearing territory, as well as right of way over considerable of the proposed route. A preliminary survey has been made, and the actual location work will begin this fall or early next spring.

The line will be about 160 miles long from a point (not yet mentioned) on the Chesapeake & Ohio to Keyser, W. Va.; on the Baltimore & Ohio via Bath Alum Springs, Bolter and Monterey, Va., Franklin, Petersburg and Mayesville, W. Va. It will require a bridge of 200 feet span over the South Branch at Petersburg, a 3000-foot tunnel at Mare Mountain and another tunnel 2800 feet long at Wilson Mountain. Besides connecting with the two railroads named, the line will also reach the Western Maryland at Keyser and the new extension of the Baltimore & Ohio at Petersburg. The route lies through country which is partly river bottom and partly mountainous. A. L. White of New York city is engineer in charge.

The purpose of the line is to open up the extensive iron deposits in the Jack Mountain section of Virginia.

Others mentioned in connection with investigations preparatory to construction are J. J. Stoutenburgh and V. M. Bovee of New York, the latter being one of the company's attorneys.

TENNESSEE CENTRAL PLAN.

Surveys for Extension in Progress Between Hopkinsville and the Ohio River.

S. M. Felton, president of the Tennessee Central Railroad Co., writes that surveys are being made between Hopkinsville, Ky., and the Ohio River in order to determine the practicability of the line and its cost. Beyond this no further steps have been taken.

This refers to the report that the Tennessee Central would build an extension from Hopkinsville to Paducah, Ky., to possibly connect with the Burlington system, which has begun construction of a line from Herrin, Ill., southward to Metropolis, on the Ohio River near Paducah.

Another press report says that the Burlington has decided to make a connection with the Louisville & Nashville Railroad

at Paducah and thus reach both New Orleans and Birmingham, besides other points in the South. This arrangement, it is said, was accomplished by Henry Walters, head of the Atlantic Coast Line, which controls the Louisville & Nashville.

This report, however, is not accepted as meaning that the Burlington will not connect with the Tennessee Central if the latter is extended. Indeed, the Burlington might acquire control of the Tennessee Central, which has been operated independently now for some time, since the relations with the Southern Railway and the Illinois Central were dissolved.

Another official of the Tennessee Central says that the proposed extension would be 70 miles long from Hopkinsville via Cadiz, Rockcastle and Birmingham to Paducah. This survey, however, is only preliminary, and the permanent location may vary from it. The construction would be moderately heavy, and bridges would be necessary over the Cumberland and Tennessee rivers. The chief engineer of the company is L. F. Lonnbladh, 513 Stahlman Building, Nashville, Tenn.

TERMINALS AT ST. LOUIS.

Missouri, Kansas & Texas Report Announces \$4,000,000 to Be Spent.

The Missouri, Kansas & Texas Railway's annual report, covering the fiscal year ended June 30, shows gross operating revenues \$25,300,915; operating expenses, \$17,667,406; net operating revenue, \$7,633,508; operating income after deducting taxes, \$6,666,199; gross incomes, \$6,847,634; surplus, after the payment of interest on bonds, rentals, charges for additions and betterments, etc., \$940,883; balance, after the payment of dividends on preferred stock, \$420,883; ratio of expenses to revenue, 69.83 per cent., which is a slight decrease.

June 30, 1908, the gross operating revenues for the year were \$23,283,669 and the net \$6,851,562; the operating income was \$6,163,318, and the gross income \$6,544,741; the balance, after the payment of all charges and dividends, was \$268,830.

The company has practically completed the reduction of grades between Atoka, Okla., and the Red River, giving it 46 miles of low-grade line, 35 miles being double-tracked. The grades are now being reduced on 44 miles between Atoka and McAlester.

President Joline further announces that the company will construct without delay its new terminals in the northern part of the city of St. Louis, where 200 acres of land have been secured. Tracks and buildings for freight-yards and terminals will be built. In the same city a site for a freight station and warehouses has also been acquired in the heart of the shipping district, extending along Broadway four blocks, between Florida and Brooklyn streets. The total cost of this entire project will be about \$4,000,000.

NEW MEMPHIS STATIONS.

Louisville & Nashville to Build a Splendid Depot—Plans of Other Roads.

Plans for building a large union passenger station at Memphis, Tenn., have been abandoned, according to late reports from there. The different railroad companies interested held a final meeting, but failed to agree among themselves about the division of the fixed charges which they would have to bear when the station was completed, and it now seems that the property of the Memphis Railroad Terminal Co., of which A. W. Biggs is president, will be sold and its affairs wound up. The company has spent, it is said, altogether for property and expenses about \$1,200,

000, and it is estimated that the land owned by it will realize about \$600,000.

It is now expected that the Illinois Central will improve its station in Memphis; that the Rock Island system will lease the present union depot, and that the Louisville & Nashville and several other lines will build for themselves a new depot near the present union station. This will include, besides the road named and its affiliated lines, the Southern Railway, the Missouri Pacific and the St. Louis Southwestern railways. This new Station, according to a report quoting an L. & N. official, will cost \$2,500,000.

MISSOURI PACIFIC WORK.

\$140,000,000 or More to Be Spent in Preparing for Future Business.

George J. Gould, who has just returned from Europe, is quoted as confirming the report that \$140,000,000 are to be spent for improving the Missouri Pacific system, and he is further reported as stating that even more may be required to provide additional facilities needed for handling business. The new financing to carry out this work will be completed within a few months.

New Equipment, Rails, Etc.

The Illinois Central Railroad has increased its order for locomotives, giving a contract for 13 to the Baldwin Works, Philadelphia. This makes 23 ordered within a month.

The Oklahoma Railway, Oklahoma City, Okla., is reported contemplating the purchase of eight combination cars.

The Seaboard Air Line will purchase 1000 box cars, 25 stock cars and 40 automobile cars.

The Georgia Railroad has ordered from the Baldwin Works, Philadelphia, two 10-wheel locomotives.

The Baltimore & Ohio's locomotive order was placed thus: 26 Atlantic type passenger engines from the Baldwin Works, Philadelphia, and 34 consolidation locomotives from the American Locomotive Co., New York.

In addition to previous car orders, the Baltimore & Ohio, it is reported, has awarded contract to the Ralston Steel Car Co., Columbus, Ohio, for 500 ventilated box cars.

The Missouri Pacific Railway is reported in the market for 40,000 tons of rails for next year.

The New Orleans & Northeastern Railway is reported to have placed its order for 100 box cars and 100 gondolas with the American Car & Foundry Co.

The Atchison, Topeka & Santa Fe has ordered 12,000 tons more of rails from the Illinois Steel Co., Chicago. It has also ordered 1000 refrigerator cars from the American Car & Foundry Co., St. Louis.

An Excellent Railroad Map.

A new railroad map of North Carolina has just been issued. It was prepared for the Corporation Commission by H. C. Brown. It is very complete, and of such size that all the lines thereon are plainly displayed, together with their different stations and connections. Lumber railroads as well as common carriers are shown, also proposed roads. The map is several feet long, and is admirably printed on substantial paper.

Will Get Through Connection.

The Carolina, Clinchfield & Ohio Railway, according to dispatches from Augusta, Ga., has made arrangements with the Charleston & Western Carolina Railway for a connection from Spartanburg to Augusta, and possibly to Port Royal or Charleston. The Clinchfield road is expected to be completed into Spartanburg

some time in October or November, and will be put in service through to that city as soon as possible thereafter.

Railroad Notes.

The St. Joseph & Grand Island Railroad has put two of its new motor cars in service, and three others will be used as soon as they are received from the builders. This motor-car service is to be provided between Kansas City & St. Joseph, Marysville, Hiawatha and Fairbury.

Contract has been awarded to the American Construction Co. at Houston, Tex., for building the union passenger station of the Houston Belt & Terminal Co., which will cost about \$600,000 and is situated near the heart of the city. The entire station work will cost more than \$1,000,000.

An officer says that while nothing is contemplated for contract work on either the Baltimore, Chesapeake & Atlantic Railway or the Maryland, Delaware & Virginia Railway, the companies are preparing a budget of improvements which will be done by their own men. This work will include reconstructing buildings, bridge rests, track work, etc.

FOREIGN LETTERS

The MANUFACTURERS' RECORD is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. Some of these letters indicate the disposition of foreigners to buy American goods, and are therefore of interest to our readers.

Wants Bolts and Nuts.

Chaney & Bull, 19 and 21 Moorgate street, London, England, writes the MANUFACTURERS' RECORD:

"We are at the present moment on the lookout for either a first-class works or else a smart intermediate man dealing in bolts and nuts. The Manila market has been closed by the new tariff to European bolts and nuts, and we are compelled to buy our requirements in the States. Under these circumstances we should be very much obliged to you if you would put us into communication with first-class makers of hexagon head, round neck bolts and hexagon nuts. We do not mean such firms as the Buffalo Company, which makes a specialty of small cup-headed bolts. We trust you will be able to do this, and we shall be pleased at any time to reciprocate."

(The MANUFACTURERS' RECORD has a copy of specifications of the bolts and nuts wanted.)

For Coloring Yarns.

I. Mendelsohn, Srednia-Str. No. 2, Lodz, Russia, writes the MANUFACTURERS' RECORD:

"I beg you, if you please, to give me the names and addresses of any good houses you may be acquainted with which make metal shells (metallic huelsen) for coloring yarns upon their spools. I am doing a good business with these goods, and therefore ask you to help me out in the matter as soon as you possibly can."

Candle and Macaroni Machinery.

R. A. Gray, chief engineer, F. C. Transcontinental Mejicano, San Felipe, Estado de Gto., Mexico, writes the MANUFACTURERS' RECORD:

"Can you give me the address of anyone making machines for preparing macaroni, vermicelli and such pastes, and candle-making machinery also? Would like catalogues and net prices."

Shipments of phosphate from Tampa during August amounted to 90,830 tons, an increase as compared with shipments during August, 1908, of 6131 tons.

MINING

Plans Development.

It is announced that the Cullman (Ala.) Coal & Coke Co., reported in May as incorporating with a capital stock of \$2,000,000 for the probable development of coal lands in Cullman county, has purchased the Parker coal fields, embracing 10,220 acres, and will soon begin active development work. In connection with the enterprise it is stated that the company will construct a railroad from Cullman to the mines, making its terminus at Arkadelphia, and will open up a territory near Bremen, on the new railroad, which will probably be colonized by 2000 Hollanders, who expect to take up small tracts for truck farming. Among the incorporators of the company are George H. Parker and Joseph Spitsnagel, both of Cullman, and D. W. Ten Broek of St. Louis.

Reduction Plant for Mobile.

Reports from Mobile state that the International Whiting & Fiber Co. of that city, W. H. Bell, Vicksburg, Miss., president, and Dr. W. E. Hall, Chicago, treasurer, is planning to perfect its organization to operate whiting mines in Mexico and a reduction plant at Mobile. The company's mines are in the State of Campeche, and the deposits are estimated to contain 3,000,000 tons. It is planned to import 15,000 tons annually to Mobile, where a reduction plant of 50 tons daily capacity has already been established and a new battery is to be installed. The product is used in the manufacture of paint, linoleum, oilcloth, rubber goods, white lead, kalsomine, etc.

Installing Mining Plant.

The Kroger Gas Coal Co. of McWhorter, W. Va., which recently incorporated with a capital stock of \$100,000, has purchased 530 acres of coal land near McWhorter and is constructing a mining plant for its development. Among the incorporators of the company are Isham Keith, Clarksburg, W. Va.; H. H. Staggers, Fairmont, and associates.

Mining Notes.

Shipments of coal and coke over the lines of the Norfolk & Western Railway from mines in West Virginia amounted to 1,197,334 tons of coal and 188,153 tons of coke.

According to reports of United States river engineers to John Laing of the State Department of Mines of West Virginia, a total of 25,684,000 bushels of coal was shipped on the Kanawha River during the fiscal year ended June 30, 1909.

Newell G. Alford, 340 North 22d street, Philadelphia, Pa., states he is not connected with the Pelican Coal and Iron Syndicate, 810 Lincoln Building, Louisville, Ky. This company was reported recently as planning to develop 2500 acres of coal land. Mr. Alford was erroneously named as a director.

The Saxman Coal & Coke Co. of Philadelphia has incorporated with a capital stock of \$200,000 to develop coal lands in Nicholas and Greenbrier counties, West Virginia. Its incorporators include Henry L. Shattuck, William H. Best and John R. Pierce of Boston, A. R. Graustein, Cambridge, Mass., and R. H. Oveson, Brookline, Mass.

For Manufacturing Denatured Alcohol.

H. G. Burnet, superintendent El Caimital Fruit Co., Los Palacios, Cuba, writes the MANUFACTURERS' RECORD:

"I should like to hear from manufacturers of small distilling plants suitable for the making of denatured alcohol for use on the farm."

MECHANICAL

Telephone Opportunities in the South

By CHARLES L. MULLIGAN.

The telephone industry affords one of the best examples of opportunity in the South. Not only is the opportunity there, but it is already being recognized.

An interesting subject indeed is the rural telephone. It has brightened farm homes and removed much of the lonesomeness of rural life. The industrial phase also demands recognition. Manufacturing and commercial interests desire to see the cotton and tobacco and rice States as well telephoned as are the wheat and corn States today. In the Middle West, where more than half and in some instances over 75 per cent. of the farms have their telephones, the greatest agricultural efficiency is found. The farmers use their telephones to keep posted on the weather, on the market and to remain in close touch with each other for mutual benefit and profit in dollars. Perhaps it is as a result of this organization that Iowa and Minnesota, the Dakotas and Indiana are known everywhere bread and corn are eaten.

The telephone situation in the South is graphically told by census figures. These show that the outlook is encouraging, and they furnish food for reflection. The first census taken since the rural telephone movement began was in 1903. The figures describe the situation on the last day of the year 1902. Then there were in the South Atlantic States 11,268 farm telephones, and in the South Central States 7829. The census of 1900 counted 931,053 farms in the South Atlantic States and 1,586,829 in the South Central. So there were in 1902 1.2 telephones to every 100 farms in the Southeast and in the central portion, but one-half of 1 per cent. of the farms had their telephones.

This was distinctly a poor showing. The same census showed 4.8 per cent. of farms throughout the United States equipped with the telephone. In the North Central States the percentage was 10.7. Iowa, then as always the banner State in this respect, showed 26.5 per cent.

Maryland, Delaware and the District of Columbia had but 94 rural telephones when this enumeration was made. Virginia had 5599, West Virginia 1839, North Carolina 1833, South Carolina 1020, Georgia 648, Florida 235, Kentucky 2197, Tennessee 1962, Alabama 291, Mississippi 641, Louisiana 132, Arkansas 159, Oklahoma 270 and Texas 2177. Any one of the wheat-belt States could show more rural telephones than all of this Southern group combined.

Evidence of a marvelous growth in five years was given by the next census, with figures for December 31, 1907. Iowa had jumped to 78.9 per cent., or 174,155. The activity of telephone people among the Southern farms showed real results. All through these years there had been a campaign of publicity designed to reach all the people. The Western Electric Co. of Hawthorne, Chicago, Ill., which had been developing farm telephone apparatus and had equipped all of the Bell lines, was a pioneer in this movement. It distributed literature telling everybody "how to build rural telephone lines;" it carried before the people in a multitude of attractive ways the advantages of the telephone on the farm, how it removed the burden of isolation and furnished opportunities for business and social activities quite beyond anything then known.

By the end of 1907 the telephone was no longer a rarity on Southern farms. Maryland, again coupled for census purposes with Delaware and the District of Columbia, had increased the 94 telephones to 5973. Virginia had 15,155, West Vir-

ginia 24,234, as opposed to 1839 five years earlier; North Carolina 8900, South Carolina 3096, Georgia 5816, Florida 1785, Kentucky 13,051, Tennessee 10,063, Alabama 5419, Mississippi 6973, Louisiana 1260, Arkansas 12,403, Oklahoma 24,874 and Texas 41,862. It is reasonable to suppose that telephones have been increasing since the beginning of last year at an even more pronounced rate than previously.

Now efforts are being exerted toward making the rate of increase in the South a permanent one. Though much that is encouraging has been accomplished since the campaign opened, there is still a lot of solid work to be done before the cotton belt can take rank with other sections of the country in the matter of telephone development. Southerners interested in the subject should inquire into the reasons why the percentage of increase in the five-year period between the two census dates was 469 for the South Atlantic States and 367.5 for the South Central States, when for the North Atlantic States it was 771 and for the Western States 2350; why in the South but 7 per cent. of the farms are equipped with telephones. Of course, that 7 per cent. is a great improvement over the 1 per cent. shown in 1902, but the need of missionary work is even more apparent.

Accordingly the campaign of publicity is being pushed even more vigorously, and the individual Southern farmers and planters are being reached in every possible way. Results are becoming more and more in evidence. Witness this story from rural Georgia.

Every farmhouse in Hancock county will have a telephone when the present plans of the residents are consummated. The leaders in the movement are the merchants and business men of Sparta, the county-seat. These wise Georgians are well aware of the benefits that will accrue to them if every farmer is in direct communication with town and with each of his rural neighbors. So the townsmen are assisting the farmers, even to the extent of contributing a large share of the expense of the improvement.

Reports from Hancock county say that both urban and rural workers are highly enthusiastic over their project.

Another case in point relates to Eastern Tennessee, where a berry and fruit association was formed by a number of farmers anxious to increase their profits by such an organization. One of the first acts of this body was to set in motion plans for a telephone system to include all of its members. The telephone is indispensable to fruit growers. Many a valuable crop has been saved by advance weather information received over the wire.

Accordingly dispatches from Tennessee told of the large number of farmers found out on the turnpikes erecting poles and stringing wires. Expert linemen from the nearby cities were guiding them, and the farmers were receiving a practical demonstration of the real worth of good construction.

The South needs rural telephones. Many instances of this sort of activity will place the sunny States on a new level, for nothing so distinguishes a State as flourishing homes and prosperous people in its farming sections.

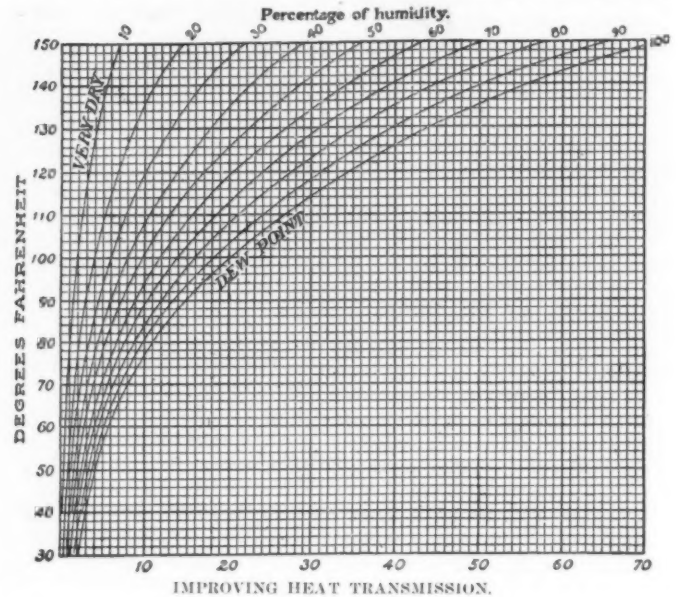
Improving Heat Transmission.

Most engineering operations involve the transfer of heat between metal surfaces and fluids. Such transfer is involved in the operation of steam boilers, closed feed-water heaters, heating coils and radiators, economizers, condensers, evaporators, cooking kettles, etc. The rate of heat transference attainable obviously in-

fluences the design of these several apparatuses to a marked degree.

This rate may be expressed commercially as the number of British thermal units transferred per square foot of heating surface per hour per degree difference of temperature, and is usually designated by *U*. The magnitude of *U* is obviously affected by the following factors: First, the temperature, nature and condition of motion of the medium from which the heat is being transmitted; second, the thickness, material and condition of the intervening plate or tube surface, and third, the temperature, nature

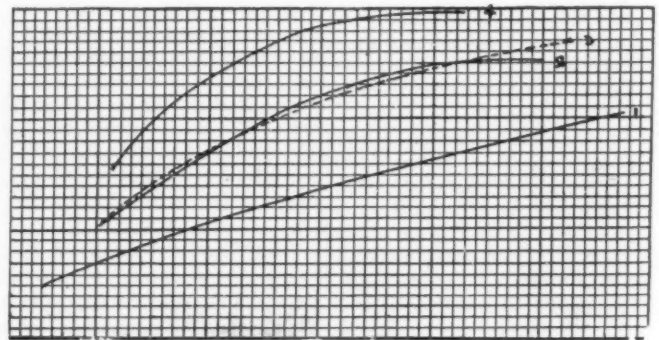
means of steam coils, the source of the heat and its final destination are the same in each case. Where steam is used the heat is first transmitted from hot gases of combustion to the metal of the boiler, thence to the water and steam in the boiler and again from the water or steam to the metal of the heating coil or radiator and finally to the air. In the present device the heat is transmitted from hot gases to the walls of the metal pipes, and from these immediately to the air. With the same difference in temperature between the hot gases of combustion and the air, the capacity of the waste-heat air



and condition of motion of the fluid which is being heated. How great the influence of these several factors is upon the activity of the heat transmitting surface will be apparent from an approximate statement of the values obtained in several different kinds of apparatus.

For boilers and economizers the value of *U* appears to vary between 2 and 3½ heat units per square foot per hour per degree difference of temperature. In heat exchanges, that is, appliances in which heat is transferred from one liquid to another through a metal surface, values of 50 to 60 are given for *U*. In closed feed-water heaters it is usually between 200 and 300, while in certain modern types of

heater would undoubtedly be greater than the capacity of twice the amount of combined boiler surface and radiator surface, other conditions being equal. However, the heater is more usually employed for recovering heat from gases of combustion after the latter have already done service in a steam boiler or other apparatus; that is, the heater is usually employed as a means of fuel economy, saving the waste heat that would otherwise escape through the chimney to atmosphere and applying it to purposes for which steam would otherwise be required, or using it to pre-heat the air supplied to the surface, thus increasing the temperature and efficiency of the latter.



surface condensers values approaching 1000 are being obtained. Such a wide range of values cannot but cause the engineer to ask whether or not the performance of any one particular type of the apparatus is at the maximum possible or can be improved by changes in design or in methods of operation. In this article we shall describe some experiments made with this point in view upon the Green waste-heat air heater, a device for heating air directly from gases of combustion and similar in its general arrangement to the Green fuel economizer.

It should be noted that whether air be heated in this device or by the ordinary

In consequence of receiving gases at a lower temperature, the total amount of heat transmitted per square foot of surface is usually not as great as in a boiler, although the activity of the surface as measured by the number of heat units transferred per square foot per hour per degree difference of temperature is greater, particularly when the apparatus is operated with the special appliances herein described. As compared with a steam-heater coil or radiator, the activity of the waste-heat air heater is comparatively high, due to the greater range of temperature, for while an exhaust steam-heated radiator will rarely have a temperature

much higher than 212 to 220 degrees F. or a live steam-heated radiator higher than 400 degrees F., the waste-heat air heater may be receiving gases of a temperature of 1000 degrees F., or higher, as, for instance, the stack-valve gases of water-gas generators or the waste gases from metal furnaces. When the apparatus is installed to receive the chimney flue gases from a steam boiler, the temperature will as a rule be between 500 and 650 degrees F. The final temperature of the air heated by the apparatus will be determined by the use that is to be made of it. For

difference of temperature was increased 50 to 75 per cent. This confirms results obtained by the engineers of the United States Geological Survey and by other investigators upon steam boilers. It appears that the transfer of heat to and from a gas is almost entirely by convection, so that anything that is done to increase the convection or to increase the rate at which the cold gas is removed from the surface and hot gas substituted will increase the rate of heat transmission. If motion is not given to the gas mechanically or by natural gravity circ-

panying diagram, where the line marked 1 shows the heat transmitted per square foot per hour per degree difference of temperature for various numbers of cubic feet of air passed through the heater per minute. Curve No. 2 shows the same values for the same heater, with the same volume of air passed first through one-half and then through the other half of the tubes in series. Curve No. 3 shows the values obtained by passing the air through all the tubes in parallel, but with winged spirals in the tubes, while No. 4 shows the values obtained with the spirals and the two groups of tubes in series. Curve 1 in this diagram is especially interesting, since it is nearly a straight line, showing that the rate of heat transmission increases almost directly as the velocity of the air, a result which had already been demonstrated by the United States Geological Survey. In all these

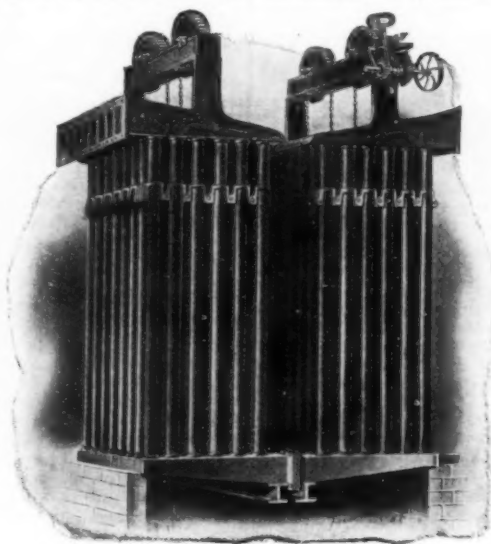
As the centrifugal or turbine style of pump seems to be especially suited for so many services where the steam or power-driven reciprocating machines were formerly used, a line is offered that is believed to appeal to engineers as meeting every condition. These pumps are made for any method of drive, and prompt shipment can be made. They are built by the Buffalo Steam Pump Co., Buffalo, N. Y.

Oranges and Pecans.

[Special Cor. Manufacturers' Record.]

San Antonio, Tex., September 11.

Harvey C. Stiles of Raymondville, Tex., one of the jurors on horticulture at the St. Louis World's Fair, and editor of the *Industria Mexicana*, has just completed arrangements for the planting of the largest orange orchard in Texas. Mr. Stiles owns a property of sev-



96-TUBE AIR HEATER.

heating and ventilating rooms in buildings this will be quite moderate, while for drying work it will be limited as a rule by the nature of the material being dried, although temperatures above 500 or 600 degrees F. are sometimes employed.

The apparatus can be so connected that the air will be passed through all the pipes in parallel or through groups placed in series. In the latter case, it is customary to have the air enter the apparatus at the cold end; that is, the end from which the gases of combustion are leaving, and to leave the apparatus from the hot end;

lation, the transfer of heat can only take place by diffusion, which may be conceived of as a process of gas molecules receiving high velocity from the hot plate and expending it upon slower-moving molecules a little distance away from the plate, these in turn passing it on to others. The transfer of heat through gases by diffusion is an exceedingly slow process, as witness the many engineering appliances in which heat insulation is secured by means of "dead-air" spaces.

The success obtained from merely increasing the velocity of the air blowing

experiments the exteriors of the pipes were kept free of soot by means of automatic scrapers similar to those used on the economizer.

The foregoing information and the four accompanying illustrations were furnished by the builders of the device, the Green Fuel Economizer Co. of Matteawan, N. Y.

Steam Turbine-Driven Pump.

Two accompanying illustrations represent a Buffalo centrifugal pump direct connected to a Kerr steam turbine. This is a 6-inch horizontal shaft, single-stage, double-suction, volute machine, and is proving very successful operating at the necessary high speed. The pump and turbine are mounted on the same base, and are connected with a special leather-link flexible coupling, having a ring oil bearing between flexible coupling and gland on pump.

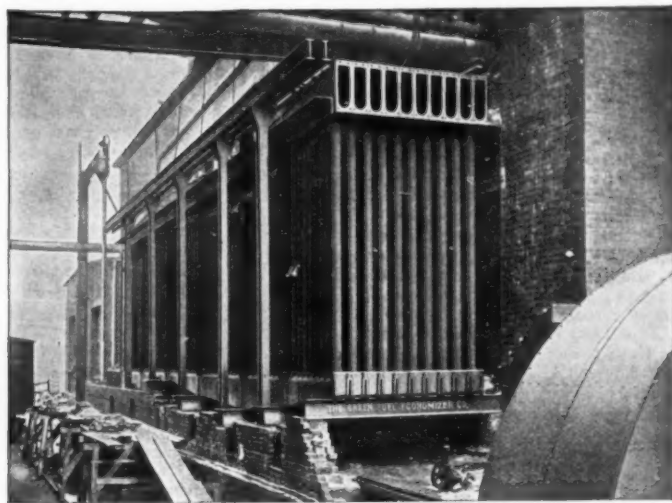
The machine has been working 24 hours

eral thousand acres, The Palms, in the lower Rio Grande Valley, and on this the orchard will be located. The fruit selected by him is the Satsuma orange. Forty trees to the acre will be set out, making a total of 40,000 trees for the tract. Mr. Stiles will also set out 60,000 grafted pecan trees on his property, covering at least 1500 acres. Only the best varieties, coming under the general classification of paper-shells, will be planted by him.

Cactus for Cattle.

Mr. John H. Glazier of John H. Glazier & Co., Kansas City, Mo., referring to plans of a company in which he is interested, which will make stock feed from the cactus, writes to the MANUFACTURERS' RECORD as follows:

"By our process we reduce first the spines upon the cactus or prickly pear into a soft pulp, thus destroying their



GREEN PATENT WASTE-HEAT AIR HEATER.

that is, the end with which the gases of combustion first come in contact, as by this means the greatest average difference in temperature is maintained throughout the apparatus. A perfect apparatus arranged in this way would be able to transfer all the heat of the hot gases to the cold gases. In making arrangements of this kind, it was discovered that if the same number of cubic feet of air were put through the heater with one-half of the pipes arranged in series with the other half, the amount of heat transmitted per square foot of surface per hour per degree

through the pipe naturally led to the suggestion that the rate of heat transference could be still more increased if the air were churned up and the cold core gas in the center of the pipe brought more positively into contact with the walls. To this end, specially designed "winged" spirals were inserted in the pipe, with results wholly justifying the reasoning, for the rate of heat transfer was increased in about the same ratio as by doubling the velocity of the air.

The results of these experiments are shown in the several curves in the accom-

a day for the past six months, and no trouble has been experienced. It is pumping 1000 gallons of water per minute against a total head of 100 feet, and is operating at 2100 R. P. M. There were two of these units installed in the same power-house and at the same time.

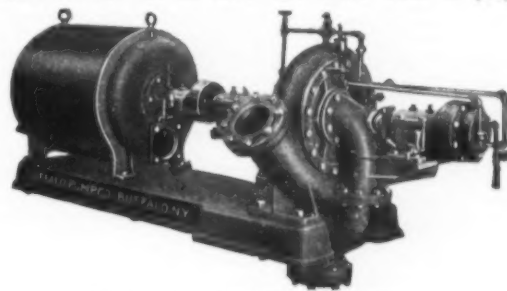
The pump is fitted with dust-proof double ring oil bearings and water-cooled single-collar thrust. The runners are of bronze, and are finished all over. All the glands are brass lined. The suction glands are on each side of the pump, and are provided with water seal to prevent leakage of air to the interior of the pump. A recent test of this pump showed an efficiency of between 74 and 75 per cent. The pump is connected to an 18-inch 7-stage 50 H. P. Kerr steam turbine, which operates non-condensing under 125 pounds steam pressure. The weight of the complete unit is about 8000 pounds.

ability to injure the stock, and then, by combining the mass with other food products, we make a food which is extremely fattening and beneficial to the stock. It fattens more quickly than corn or alfalfa, and produces a character of flesh most desirable for the butcher trade.

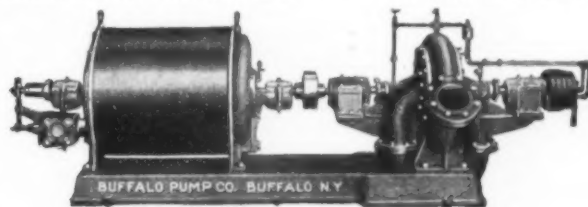
"We expect to build plants in numerous places in the Southwest and Mexico, where cactus and cattle are raised, and will be constantly in the market for machinery of a certain sort."

In the last calendar year Maryland produced 5,830,200 bushels of oysters, worth \$2,127,140. In the same period Louisiana produced 2,385,042 bushels of oysters, valued at \$1,908,033.

It is estimated that the assessed value of personal property in Tennessee this year is \$11,500,000 greater than that of 1908.



STEAM TURBINE DRIVEN PUMP.



STEAM TURBINE DRIVEN PUMP.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECT

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

BRIDGES, CULVERTS, VIADUCTS

Ark., Pine Bluff.—Jefferson County Commissioners are reported as to issue \$175,000 of bonds for construction of bridge across Arkansas River at Pine Bluff.

Fla., Jacksonville.—Duval County Commissioners awarded contract at \$3510 to Canton (O.) Bridge Co. to construct bridge over Jacksonville Creek, and to Converse Bridge Co., Chattanooga, Tenn., at \$7895 to construct draw in bridge over Pablo Creek.

Fla., Manatee.—Manatee Bridge Co. incorporated with C. H. Davis, president, K. W. Wiggins, first vice-president, W. R. Whitaker second vice-president, J. S. Tarrar secretary and E. E. Johnson treasurer, to construct bridge across Manatee River from Manatee to point between Ellenton and Palmetto.

Md., Salisbury.—Baltimore, Chesapeake & Atlantic Railway, W. U. Polk, superintendent, contemplates improvements, including reconstruction of buildings, bridge rests, track work, etc.; this is to be done by employees of company and under its official direction.

Miss., Greenwood.—Le Flore county awarded contract to W. T. Young & Co. of Greenwood at \$19,500 for construction of iron bridge across Tallahatchie River near Ashwood Ferry. (Lately noted.)

Miss., Monticello.—Lawrence county will construct steel bridge across Bohala Creek, steel approaches to steel bridge across Pearl River and steel bridge across Hall's Creek; contract to be awarded October 4; W. H. Speights, clerk Board of Supervisors. (See "Machinery Wanted.")

Tenn.—Littleton.—Hickman County Commissioners awarded contract to Nashville (Tenn.) Bridge Co. to construct steel bridge over Duck River; cost \$15,000. (Lately noted.)

Tex., Galveston.—Bids will be opened September 20 for construction of Horseshoe Bend bridge over bayou on Galveston Island; John M. Murch, County Auditor. (See "Machinery Wanted.")

Tex., Lufkin.—Angelina County Lumber Co.

is preparing to construct bridge across Angelina River.

Tex., Texarkana.—Bids will be opened October 7 for construction of bridges and road in Road District No. 1 of Bowie county; J. W. Maxcy Company, Houston, engineer in charge; Joseph H. Hughes, county judge, New Boston, Tex. (See "Machinery Wanted.")

Va., Independence.—Bids will be opened September 18 for construction of two steel bridges across Fox Creek, one 70 feet long and one 100 feet long; P. St. J. Wilson, State Highway Commissioner, Richmond, Va. (See "Machinery Wanted.")

Va., Pearisburg.—Giles county will vote on issuance of \$30,000 of bonds to construct two steel bridges across New River, one at Narrows and other at Eggleston. Address County Commissioners.

W. Va., Wheeling.—Bids will be opened September 30 for construction and reconstruction of substructure of bridge at Market street over Wheeling Creek; Herman Laub, Lewis Bldg., Pittsburgh, Pa., is consulting engineer; D. G. Brown, clerk Board of Control, Wheeling. (See "Machinery Wanted.")

CANNING AND PACKING PLANTS

Ark., Lockesburg.—Company organized by C. F. Shuey, Mena, Ark., to establish canning.

Okla., Enid.—Farmers' Co-operative Packing Plant Co., recently reported incorporated with capital stock of \$1,000,000, will erect buildings 300x400 feet and install machinery for daily capacity of 1000 hogs and 500 cattle; equipment has not been purchased. Address care of J. Y. Callahan.

Tenn., Sevierville.—R. D. Marshall and others are interested in establishment of meat-packing and ice plant.

CLAYWORKING PLANTS

Ga., Atlanta.—Brick.—Southern Brick Co. incorporated with \$15,000 capital stock by T. E. Simmons and others.

Md., Baltimore.—Maryland Clay Products Co. incorporated with \$250,000 capital stock by S. L. Stadelman and R. Barker, Ardmore, Pa.; W. Lyle, Belmont Heights, Manayunk, Station Philadelphia, Pa.

Okla., Nowata.—Brick.—Star Brick Co. incorporated with \$25,000 capital stock by E. C. Pollard, J. J. Kiner and P. L. Kirk.

Okla., Sapulpa.—Brick.—Sapulpa Brick Co. incorporated with \$100,000 capital stock by O. A. Kentner, C. D. Powell, E. C. Wallace and others.

Okla., Sapulpa.—Brick.—O. E. Kentner and associates will establish brick plant with capacity of 125,000 bricks daily.

Tex., Abilene.—Brick.—Lanlus Pressed Brick Co. incorporated with \$35,000 capital stock by C. A. Lanlus, O. P. Thomas and M. J. Craig.

Tex., Coleman.—Coleman Brick & Tile Co. contemplates establishment of brick plant to cost \$25,000.

Tex., Coleman.—Brick.—W. G. Coulson will establish plant for manufacturing pressed, face and vitrified brick.

Va., Norfolk.—Pressed Brick.—Moistproof Pressed Brick Co., E. E. Pelot, president, Reservoir Ave. and N. & S. R. R., recently reported incorporated with \$10,000 capital stock, has purchased machinery for plant with daily capacity of 40,000 brick; will erect 10x130-foot building; corrugated iron; cost \$1000; present address, 513 Clay Ave.

W. Va., Barboursville.—Clay Products.—Barboursville Clay Manufacturing Co. incorporated with \$25,000 capital stock by M. O. Johnson, F. W. Peyton, G. E. Thornburg and others.

COAL MINES AND COKE OVENS

Ala., Cullman.—Cullman Coal & Coke Co., previously reported incorporated with \$2,000,000 capital stock, purchased 10,200 acres of coal land for development. George H. Parker and Joseph Spitsnagel, both of Cullman, and D. W. Ten Broek, St. Louis, Mo., are incorporators; offices in Commercial Hotel, Cullman.

Ala., Dunlap.—Southern Iron & Steel Co., Birmingham, Ala., will make improvements to coal mines at Dunlap, increasing output of 500 tons daily.

Ala., Seale.—Alabama Consolidated Coal & Iron Co., Birmingham, Ala., is proceeding with expenditure of between \$65,000 and \$75,

000 in construction of coal tippie and washer to replace one destroyed by fire; coal bins to be on concrete base 14 feet high. (Lately noted.)

W. Va., Fairmont.—Virginia & Pittsburg Coal & Coke Co., P. Y. Hite, president, purchased for development tract of coal about five miles below Fairmont.

W. Va., Glen Alum.—Glen Alum Coal Co., J. R. Gilliam, president, Lynchburg, Va., will rebuild burned coal tippie. (See "Machinery Wanted.")

W. Va., Huntington.—Levisa Coal Co. incorporated with \$20,000 capital stock by E. M. Watts, T. J. Bryan, A. E. Bush and others.

W. Va., McWhorter.—Kroger Gas Coal Co., recently reported incorporated with \$100,000 capital stock, has secured 530 acres of coal land, and is constructing mining plant. Isham Keith, Clarksburg, W. Va.; H. H. Staggers, Fairmont, W. Va., and others are incorporators.

W. Va., Nicholas County.—Saxman Coal & Coke Co. incorporated with \$200,000 capital stock by Henry L. Shattuck, William H. Best and John B. Pierce, all of Boston, Mass.; A. R. Graustlin, Cambridge, Mass., and R. H. Oveson, Brookline, Mass.

CONCRETE AND CEMENT PLANTS

Okla., Stillwater.—Lawrence Harvey Concrete Co. incorporated with \$2400 capital stock by J. L. Lawrence, H. P. Harvey and Edna Harvey.

Va., Norfolk.—Norfolk Portland Cement Corporation incorporated with capital stock of \$50,000 to build Portland cement plant; has site on Southern branch of Elizabeth River; will erect mill construction buildings and install machinery with daily output of 2500 barrels Portland cement; cost of plant, from \$600,000 to \$800,000; president, Robert E. Griffith; treasurer, F. J. Jiggins; secretary, J. F. Long, all of Philadelphia; new company is branch of American Cement Co., 15th and Chestnut Sts., Philadelphia, Pa.; latter company's engineers will be engineers in charge of constructing Norfolk plant; address correspondence to Philadelphia office. (Philadelphia company previously mentioned by Manufacturers' Record to build plant at Norfolk.)

Va., Norfolk.—Concrete Floor Beams, etc.—State Manufacturing Co., recently reported incorporated with \$20,000 capital stock, will erect plant for manufacturing concrete floor beams and building materials; cost of buildings, \$4000; J. F. W. Fawcett, president. (See "Machinery Wanted.")

COTTON COMPRESSES AND GINS

Ark., Sherrill.—P. J. Jenkins will establish cotton gin.

Ga., Route 1, Adel.—Union Gin Co., recently reported incorporated (under Nashville, Ga.), has purchased equipment for gin of 10 to 12 bales daily capacity; H. J. Cowart, president; M. M. Cowart, secretary; J. N. Futch, treasurer; will erect 25x40-foot wood building. (See "Machinery Wanted.")

Miss., Indianola.—Sunflower Compress Co., W. R. Humphrey, president, has plans by R. Jesty & Co., Winona, Miss., for erection of cotton compress; sheds and tower, 400x200 feet; of ordinary construction; cost of buildings, \$13,000; cost of machinery, \$21,000; Webb Compress Co., Minden, La., engineer in charge.

N. C., Apple (not a P. O.).—Apple Gin Co. incorporated with \$10,000 capital stock by W. R. Herrington, John C. Daniel and A. R. Darden, all of Walstonburg, N. C., and James S. Bynum, Wilson, N. C.

S. C., Riverside.—A. H. Greene will erect gin and grist mill.

COTTONSEED-OIL MILLS

Ala., Samantha.—Feed Oil Co. of Tuscaloosa, Ala., organized with George A. Searcy, president; George D. Johnston, Jr., secretary; will establish mill to manufacture cottonseed or other vegetable oils and ground feed.

Fla., Lake City.—Burruss Engineering Co., Atlanta, Ga., will establish cotton-oil mill; has leased building.

Ga., Dalton.—Company will be organized by Horace J. Smith and others to establish cottonseed-oil mill. (See "Ice and Cold-Storage Plants.")

S. C., Simpsonville.—Simpsonville Oil Mill,

T. R. Cox, president, previously reported incorporated, purchased plant of Simpsonville Oil & Manufacturing Co.; mill equipped.

Tex., Whitewright.—Whitewright Cotton Oil Co. will rebuild seedhouse reported burned; loss \$14,000.

Ga., Garfield.—Garfield Oil Mills, recently reported incorporated with \$15,000 capital stock, has taken over Garfield Cotton Oil Mill Co.'s plant; two-press mill; officers not elected; R. J. Walsh in charge.

ELECTRIC-LIGHT AND POWER PLANTS

Ark., Nashville.—City Council is conferring with Leo Loeb and George T. Schmelzel, Little Rock, Ark., relative to construction of electric-light system.

Ga., Athens.—Atlanta Power Co., Atlanta, Ga., purchased Tallulah Falls for \$100,000; plans to develop and transmit 16,000 horsepower by electricity to Tallulah, Gainesville and Atlanta; engineer in charge, C. E. Parsons, 82 State St., Albany, N. Y.

Ga., Cartersville.—United States Army engineers have begun surveys and borings for proposed storage reservoir on Etowah River near Cartersville; dam to be 160 feet high, with storage capacity of 35,000,000 cubic feet of water, thus storing excess water during rainy seasons, preventing flood and equalizing flow of river during dry periods; electrical control planned for regulating amount of water to pass through dam; estimated cost \$3,000,000, to be expended by United States Government, it being proposed this amount be refunded by various water-power companies deriving benefits from increased power value of river; earth and concrete construction proposed for dam; no construction to be undertaken until approval by Congress; Capt. H. B. Ferguson, Montgomery, Ala., can probably give information.

Ga., Cuthbert.—City will vote October 12 on issuance of bonds to extend and improve electric-light system. Address The Mayor. (See "Water-Works.")

Ky., Louisville.—Louisville Street Railway Co., T. J. Minary, president, has begun erection of proposed power-house as addition to present power plant; building will be 60x119 feet, one story high, and cost \$20,000; machinery will cost \$50,000 additional.

La., Clinton.—City will vote September 21 on issuance of \$15,000 of bonds to construct electric-light plant. Address The Mayor.

La., Mandeville.—City Council granted franchise to S. Pigaglio for construction of electric-light plant.

Md., Thurmont.—John R. Rouzer, P. N. Hammaker, J. W. Creager, M. A. Birely and others will incorporate company to establish electric-light and power system; plant will be operated by water-power; later, city proposes to issue bonds and purchase plant.

Mo., Kansas City.—Electric Traction Construction Co., Commerce Bldg., Kansas City (recently reported incorporated under "Miscellaneous Enterprises" with \$100,000 capital stock), will erect and equip fireproof power-house for proposed Interstate Railway from St. Joseph to Kansas City; cost \$100,000; also contemplates erection of \$20,000 warehouse at Kansas City. (See "Machinery Wanted.")

N. C., Marshall.—W. T. Weaver Power Co. of Asheville, N. C., is reported as planning to begin proposed additional water-power development on French Broad River near Marshall, N. C.; to transmit 5000 horse-power by electricity.

Okla., El Reno.—H. M. Bylesby & Co., Chicago, Ill., purchased entire property of El Reno Gas & Electric Co. and will enlarge and improve plant, extending electric service throughout city and suburbs. H. H. Stevens will be retained as El Reno manager.

Okla., Erick.—City voted issuance of \$10,000 electric-light bonds. Address The Mayor.

S. C., Marion.—Martin Maloney, Philadelphia, Pa., purchased Marion Water, Light & Power Co.; understood company will be reorganized and improvements made to plant.

Tex., Elgin.—City is considering construction of electric-light plant; W. H. Kennedy, Mayor.

Tex., Floydada.—Robert Hailey, Matador, Tex., reported interested in establishment of ice and electric-light plant.

Va., Fort Myer.—Bids will be opened October 13 for interior electric wiring of 41 buildings, including fixtures, and installation of

complete outside distributing system for Fort Myer; Capt. Warren W. Whitte, Constructing Quartermaster. (See "Machinery Wanted.")

Va., Highland Park, P. O. Richmond.—Bids will be opened September 23 for construction of electric lighting and power system. Address C. P. E. Burgwyn, 917 Bank St., Richmond, Va. (See "Machinery Wanted.")

Va., Monterey.—P. H. Trout, Staunton, Va., has contract for erection and equipment of electric-light plant at Monterey. (Lately mentioned.)

Va., Norfolk.—St. Vincent's Hospital is receiving bids for erection of power-house to cost \$12,000; structure will be of brick and stone and be equipped with generating machinery to furnish lights and power; bids have been filed at Norfolk Builders' Exchange.

Va., Woodstock.—H. B. Chapman purchased property on Shenandoah River about two miles from Woodstock; reported that Mr. Chapman and others will develop water-power and install electric-light plant after franchise is secured from Woodstock.

FLOUR, FEED AND MEAL MILLS

Miss., Ripley.—Wm. McDonough will, it is reported, establish roller flour mill.

N. C., Wallace.—Carter & Brice will erect water-power mills; 59x24-foot building; foundation and waterways walls to be of concrete; two upper stories, wood; plans, etc., ready; bids requested.

Okla., Shawnee.—Rorer Mill & Elevator Co. will establish alfalfa mill in connection with present plant.

S. C., Riverside.—A. H. Greene will erect grist mill and gin.

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham.—Engines.—Veitch-Matthews Engine Co. incorporated with \$150,000 capital stock by Vassar Allen, Birmingham; George S. Veitch, J. D. Handy and Jonathan Matthews, all of Bessemer, Ala.

Ala., Queenstown.—Tunneling and Mining Machinery.—Hays Rapid Tunneling & Mining Machinery Co., Birmingham, Ala., organized with \$1,000,000 capital stock; E. W. Hays, president; H. F. Shelton, secretary; will establish plant for manufacturing tunneling and mining machinery, compound turbine engines and mine pumps; cost \$20,000. (Previously noted.)

Md., Baltimore.—Steel Cars.—Pittsburg (Pa.) reports state that Henry C. Frick and A. W. Mellon, president of Mellon National Bank of that city, are financing proposed consolidation of Standard Steel Car Co. of Pittsburg, Butler and Newcastle, Pa., and Hammond, Ind., and other prominent companies, including South Baltimore Steel Car & Foundry Co., for which it has been stated the Standard company is negotiating; understood that completion of plan would result in expenditure of several hundred thousand dollars to equip South Baltimore plant for manufacture of all-steel cars, in addition to steel underframe cars now being made; information regarding status of South Baltimore company in this proposition can probably be obtained from William H. Grafflin, chairman of creditors' committee, 208 Vickers Bldg., Baltimore, Md.; main offices of South Baltimore Steel Car & Foundry Co. are at 1517 Continental Bldg., Baltimore; plant at Curtis Bay.

GAS AND OIL DEVELOPMENTS

La., Arcadia.—Central Oil & Gas Co. organized with D. E. Brown, president; Gay Martin, secretary; Joe T. Reeves, treasurer; J. Dawidoff, first vice-president; J. P. Harrell, second vice-president; E. O. Edgerton, third vice-president.

Okla., Bartlesville.—David Oil Co. incorporated with \$20,000 capital stock by F. E. Overfield, Wann, Okla.; J. F. Overfield and E. B. Huston, Independence, Kans.

Okla., El Reno.—H. M. Byleshy & Co., Chicago, Ill., purchased plant of El Reno Gas & Electric Co.; will enlarge and improve plant; will lay pipes on every street and make other improvements. H. H. Stephens will be manager. (See "Electric-Light and Power Plants.")

Tex., Fort Worth.—Fort Worth Light & Power Co., J. C. Lord, superintendent, has leased 25,000 acres of oil lands near Bellevue, Tex.

Tex., Houston.—Crow Oil & Development Co. incorporated with \$4000 capital stock by F. P. Crow, A. J. Binz and J. T. Settegast, Jr.

W. Va., Charleston.—United Fuel Gas Co., recently noted as having purchased the West Virginia holdings of United States Natural

Gas Co., has increased capital stock from \$250,000 to \$10,000,000.

ICE AND COLD-STORAGE PLANTS

Ala., Birmingham.—Southern Produce & Cold Storage Co. is having plans prepared by E. T. Skinkle, Chicago, Ill., for cold-storage warehouse; 125x75 feet; four stories; 12 rooms on each floor; will also erect ice factory 125x50 feet, equipped with 60-ton ice-making machine.

Ala., Daphne.—A. E. Strong and W. G. Brandenburg contemplate establishment of ice plant and creamery.

Ark., England.—Eagle & Co. will erect 20-ton ice-making plant; machinery has been purchased.

Ark., Fort Smith.—Hotel Goodman will install refrigerating plant; machinery purchased.

Ark., Helena.—Helena Ice Co. will establish 50-ton ice plant; storage tankroom 70x90 feet; cost \$35,000; machinery purchased.

Fla., Jasper.—W. A. Smith will, it is reported, install five-ton ice plant.

Fla., Mulberry.—E. H. Dudley will double capacity of plant; will install 10-ton ice machine, contract for which has been awarded to Henry Vogt Machine Co., Louisville, Ky.

Ga., Dalton.—Company will be organized with \$25,000 capital stock by Horace J. Smith, F. T. Hardwick, W. M. Hardwick and others, to establish ice and cold-storage plant and cottonseed-oil mill.

Ga., Dalton.—Dalton Ice Co. organized with \$25,000 capital stock by T. Hardwick, W. M. Hardwick and H. J. Smith; will establish ice and cold-storage plant.

La., Mandeville.—Town Council granted 20-year franchise to S. Pigaglio to establish ice and electric-light plant.

La., New Iberia.—C. L. Lasalle will establish cold-storage plant.

Okla., Lawton.—Lawton Ice Co., C. E. Bear, manager, will install additional ice machine with capacity of 50 tons daily, doubling capacity of plant.

S. C., Columbus.—Columbus Coal & Ice Co., O. M. Hoffman, president, will increase capital stock from \$30,000 to \$60,000 and erect new ice plant.

S. C., Fountain Inn.—Y. R. Scruggs will establish two-ton ice plant; machinery purchased.

S. C., McClellanville.—J. M. Lofton, Jr., contemplates installation of ice plant with capacity of from one to five tons daily.

Tenn., Chattanooga.—East Tennessee Dairy Co. awarded contract to Fred W. Wolf Company, Chicago, Ill., for 20-ton ice-making plant.

Tenn., Lexington.—Southern Ice & Cold Storage Co., owner, James H. McCall, Huntington, Tenn., recently reported contemplating erection of ice and cold-storage plant at Lexington, will erect plant with 12 tons daily capacity; concrete-block construction; cost of plant, \$3000; cost of ice machinery, \$10,000.

Tenn., Sevierville.—R. D. Marshall and others are interested in proposed establishment of ice and meat-packing plant.

Tex., Beaumont.—Stedman Fruit Co. will, it is reported, remodel store building and install cold-storage departments for candies and confections.

Tex., Floydada.—Robert Halley, Matador, Tex., reported interested in contemplated establishment of ice and electric-light plant at Floydada.

Tex., Gainesville.—Gainesville Ice Co., Will McKemie, manager, contemplates enlarging and improving ice plant.

Tex., Kingsville.—Kingsville Power Co., H. Delno, manager, contemplates increasing capacity of ice plant to 20 tons daily and to equip for manufacturing clear ice without distillation.

Tex., Tague.—A. B. Baggett will establish ice plant.

Tex., Temple.—Ice & Refrigerating Co. will, it is reported, expend \$50,000 for improvements to plant; will increase capacity and install additional and improved machinery.

Tex., Weimar.—Business League is promoting establishment of ice and cold-storage plant.

Va., Staunton.—H. McK. Smith will establish ice plant; cost \$4000.

W. Va., Fairmont.—J. U. Wise & Co. will establish cold-storage plant and abattoir and install refrigerating machinery.

W. Va., Wheeling.—George M. West will establish cold-storage plant and slaughter-house; cost \$10,000.

IRON AND STEEL PLANTS

Ala., Birmingham.—Bars and Horseshoes.—Iron City Realty Co. has, it is reported, arranged to furnish site (at Gordon Heights) for iron and steel bar and horseshoe plant to be built by Middletown (O.) and Pittsburg (Pa.) manufacturers, who plan formation of company with capital stock of \$300,000.

La., Shreveport.—Rolling Mill.—Hirsch Rolling Mill Co., St. Louis, Mo., is reported as considering establishment of plant in Shreveport.

Md., Sparrows Point.—Iron Furnace.—Maryland Steel Co. has blown in furnace D, to which repairs have been made. (Lately noted.)

LUMBER-MANUFACTURING PLANTS

Ala., Selma.—B. O. Y. Lumber Co. incorporated with \$5000 capital stock; A. C. Bryant, president; E. S. Ovalite, vice-president and secretary; A. J. Yaretzky, treasurer.

Ark., Texarkana.—National Lumber & Creosoting Co., J. F. Logan, president, recently reported incorporated (under Shreveport, La.) with \$1,000,000 capital stock, continues operation of sawmills and tie-manufacturing and creosoting plants; mills at Hallville, Tex., and Galbraith, La.

Fla., Jacksonville.—Doscher, Gardner & Co., New York, have acquired planing mill and factory of E. E. West; will increase capacity and operate.

Ga., Savannah.—Taggart-Dolph Lumber Co. incorporated with \$10,000 capital stock by G. I. Taggart and J. G. Delph.

La., Dodson.—The Hickory Jones Company (L. K. Salsbury and Arthur Jones), Jonesboro, La., will establish portable mill to manufacture dimension hickory, buggy and auto material; daily capacity 7000 feet hickory logs; machinery purchased.

N. C., Middlesex.—Hutchins Lumber Co., S. C. Brawley, president, Durham, N. C., will establish lumber-manufacturing plant at Middlesex; mill construction; will install sawmilling outfit to cost \$1500; plant will have daily capacity of 15,000 feet of pine and hardwood lumber; J. A. Forbes, Wilson, N. C., engineer in charge; lately reported organized. (See "Machinery Wanted.")

N. C., Windsor.—Cashie Manufacturing Co. incorporated with \$10,000 capital stock by H. B. Cawley and C. A. Cawley, both of Lewiston, N. C.

N. C., Windsor.—Cashie Manufacturing Co. incorporated with \$10,000 capital stock by J. H. Matthews, Windsor; H. B. Brawley and C. A. Cawley, both of Lewiston, N. C.

S. C., Hopkins.—H. J. Martin, Jr., Sumter, S. C., has purchased 6000 acres of timber land and will, it is reported, establish lumber plant.

Tenn., Jackson.—Evansville (Ind.) Veneer Works is arranging to establish sawmill with capacity of 10,000 to 20,000 feet daily.

Tex., Jacksonville.—B. F. Trantham, Route 3, Box 34, will restore plant recently reported burned; will rebuild old machinery or purchase new; daily capacity of plant, within 10,000 feet lumber. (See "Machinery Wanted.")

Tex., Victoria.—Anchor Lumber Co. organized with \$30,000 capital stock; G. D. Whittitt, manager; will establish plant at Port O'Connor.

W. Va., Huntington.—Spruce Mercantile & Timber Co. incorporated with \$25,000 capital stock by U. B. Buskirk, M. P. Wilson, G. A. Koontz and others.

MINING

Ala., Marvel.—Iron.—Alabama Iron & Fuel Co. awarded contract to Western Electric Co., Chicago, Ill., for \$30,000 worth of electrical equipment for installation at iron mines.

Ark., Fayetteville.—Lead and Zinc.—Star Lead & Zinc Co. organized by B. J. Reeves, J. S. P. Johnson, Herman Craig and others.

Mo., Joplin.—Lead and Zinc.—Waneta Mining Co. incorporated with \$75,000 capital stock by Lola Quigley, Mercer Arnold, Jane Murphy and others.

Mo., St. Louis.—Sand and Gravel.—Missouri Sand, Gravel & Dredging Co. incorporated with \$200,000 capital stock by M. J. Morley, St. Louis; Charles Meierhoffer, Boonville, Mo., and others.

N. C., Asheboro.—Gold.—Asheboro Gold Mining Co. is completing installation of machinery prior to development of Tucker mine; will install log washer with capacity of 100 tons daily.

N. C., Mitchell County.—Mica.—Mrs. V. P. Chottl and Mrs. E. B. Thompson, The Northampton, both of Washington, have pur-

chased 20 mica mines and 2000 acres of land in Mitchell county.

Okla., Tulsa.—Joseph Ball Heirs' Mining & Manufacturing Co. incorporated by E. W. Dodge, Mrs. E. W. Dodge, both of Tulsa; Thomas W. Crabbe, Frankfort, Ky.

S. C., Hickory Grove.—Gold.—Company organized in New York with \$1,000,000 capital stock; William V. Holley, New York, president; N. M. McMill, Yorkville, S. C., treasurer; M. Reinhard, Hickory, N. C., secretary; will develop Magnolia group of gold mines near Hickory Grove.

Tenn., Centerville.—Phosphate.—Hoover & Mason, Chicago, Ill., have purchased 20 acres of phosphate land adjoining Shipp's Bend, near Centerville; estimated to yield 175,000 tons of phosphate.

Tenn., Nashville.—Phosphate.—Cumberland Phosphate & Mining Co. incorporated with \$20,000 capital stock by P. B. Jones, W. E. Ward, E. B. Coffee and others.

Va., Monterey.—Iron.—Henry A. Slaven reports that a large steel company will develop iron-ore properties it has been investigating.

W. Va., Patterson's Creek.—Rock.—Suspari Bros., Indiana, Pa., have purchased large tract of mountain land and will quarry rock; will install crushers and screen rock for ballast.

MISCELLANEOUS CONSTRUCTION WORK

Ark., Little Rock.—Drainage.—Board of directors Fourche Drainage District, W. M. Kavanaugh, chairman, decided to proceed to drain, straighten and levee Fourche Bayou.

Fla., Fort McRae (not a postoffice).—Henry Monk, Pensacola, Fla., has contract at \$72,708 to construct seawall at Fort McRae; wall will be 13 feet thick and 1500 feet long; H. B. Ferguson, Captain, Engineers, U. S. Engineer Office, Montgomery, Ala. (Recently mentioned.)

La., Baton Rouge.—Levee.—Bids will be opened September 20 for levee work in Rapides, Jefferson and Plaquemines parishes; Frank M. Kerr, chief State Engineer, 402 Cotton Exchange Bldg., Baton Rouge, La. (See "Machinery Wanted.")

La., Breau Bridge.—Levee.—W. D. Roberts, civil engineer, Opelousas, La., will make surveys for levee on west bank of Atchafalaya River; \$4000 appropriated; J. R. O'Donohue, Levee Commissioner.

La., Mandeville.—Breakwater.—City Council is considering loan of \$20,000 for construction of breakwater fronting city and reclaiming 300 feet of beach; also for shell road from Lake and Telamachus streets to beach. Address The Mayor.

La., New Orleans.—Wharf.—Board of Port Commissioners, A. C. Bell, engineer, awarded contract at \$19,331.35 to A. L. Patterson & Co. of New Orleans to construct 1200-foot lumber wharf; material to be furnished by board. (Lately noted.)

La., Port Allen.—Levee.—Bids will be opened September 20 for construction of Alabama Bayou-Island Levee on east bank of Atchafalaya River; length, 15,000 feet; contents of embankment, 280,000 cubic yards; V. M. LeFebvre, president Board of Commissioners, Atchafalaya Basin Levee District. (See "Machinery Wanted.")

La., Tallulah.—Drainage.—Madison Parish Police Jury decided to organize Drainage District No. 2, comprising 60,000 acres; estimated cost \$2.75 per acre; T. C. Belford, G. M. Long and G. S. Yerger appointed Board of Commissioners.

Miss., Hazelhurst.—Spillway.—The Lake Company will construct concrete spillway across dam.

Miss., Tunica.—Drainage.—Tallahatchie Drainage Commission will issue \$500,000 of bonds for construction of drainage system. Maj. T. G. Dabney is chief engineer of commission.

Mo., Hannibal.—Revetment, etc.—South River Levee and Drainage District, H. C. Scheetz, Palmyra, Mo., engineer in charge, will install \$25,000 pumping plant; will also erect, at cost of \$20,000, revetment against levee to arrest seepage and strengthen embankment. (See "Machinery Wanted.")

N. C., Belhaven.—Draining Swamp Lands.—J. A. Wilkinson and associates are progressing steadily with their drainage developments for 25,000 acres swamp land in Belhaven district; have cut 22 miles of canals and are cutting two miles per month with two dredges; good roads constructed on banks of canals; canals are cut one mile apart and laid off in mile sections of 640 acres; now clearing two square miles of land expected to be in cultivation next year; Norfolk & Southern Railway, E. T. Lamb, general manager, Norfolk, Va., owns large tracts adja-

cent to Wilkinson properties and is having plans prepared for development.

Tex., Arno—Irrigation.—Arno Co-operation Irrigation Co. incorporated with \$100,000 capital stock by Carl R. Hugh, G. A. Franklyn and J. A. Buck.

Tex., Galveston—Jetty Improvements.—Galveston County Commissioners' Court awarded contract to I. Heffron of Galveston for furnishing county with 20,000 tons of riprap to be placed along foot of seawall; approximate cost \$60,000.

Tex., Midland—Irrigation.—Red Bluff Irrigating Co. incorporated with \$10,000 capital stock by Alfred C. Owens, John H. Wilson, David M. White and others.

Va., Lynchburg.—Southern Railway, W. H. Wells, chief engineer construction, Washington, D. C., decided to remove earth from 400 feet of tunnel lately reported burned; 300 feet is to be left as open cut and remaining 100 feet to be covered with concrete arch and filled in, so as to restore Rivermont avenue and Water street.

Va., Norfolk.—Commission on Beautifying City, K. C. Johnson, engineer, has about completed plans for improving Smith Creek, and ordinance authorizing work to be done under direction of Board of Control will soon be submitted to Council; plans include bulkheading southern shore of creek from Ghent bridge to Monticello avenue, culverts and fills for arms projecting into mainland, concrete drain and fill from Monticello avenue to Elmwood cemetery, bulkheading northern shore to and around Lee Park and construction of dam above Ghent to hold water above at high tide level; estimated that bulkhead, boulevard and fills between bridge and Monticello avenue will cost \$60,000; dam and other improvements contemplated will probably increase cost to \$100,000; W. T. Brooke, City Engineer.

Va., Norfolk—Breakwater.—Norfolk & Portsmouth Traction Co. will construct stone breakwater at Willoughby Spit.

W. Va., Wheeling—Retaining Walls.—Board of Control awarded contracts to Jacovetty & Koehline of Wheeling to construct concrete retaining wall on 14th and Baltimore streets; former will cost about \$3900 and latter \$3600. (Lately noted.)

MISCELLANEOUS ENTERPRISES

Ala., Gadsden—Steam Laundry.—Empire Laundry organized by George A. Newman and associates; offices, 313 Broad street.

Ark., Nashville—Supplies.—Howard Supply Co. incorporated with \$25,000; R. F. Green, president; W. E. Kelly, vice-president.

Ark., Stuttgart—Rice Cultivation.—Burks Rice Land Co. incorporated with \$50,000 capital stock by Ray O. Burks, Stuttgart; A. R. Burks, Loretto, Ark.; George R. Burks, Lebanon, Ky., and John N. Kearnes, Louisville, Ky.

Ark., Waldo—Hardware, etc.—Waldo Hardware Co. incorporated with \$4500 capital stock by J. Albert Hale, W. O. Cook and J. H. Askew.

D. C., Washington—Groceries.—John C. Letts Grocery Co. incorporated with \$100,000 capital stock; John C. Letts, president; A. Brylawski, 1916 Calvert St. N. W., vice-president; Alexander Wolf, Jenifer Bldg., secretary.

D. C., Washington—Land Improvement.—Kennedy Bros., care of N. L. Sansbury, 719-721 13th St. N. W., Washington, has purchased Camack property at New Hampshire and Georgia avenues and Rock Creek Church road, containing 850,000 square feet, and will, it is reported, expend \$1,500,000 for improvements; will subdivide, cut through new streets, erect 335 dwellings and make other improvements.

Fla., Jacksonville—Land Improvement.—South Shore Suburban Co. incorporated with \$50,000 capital stock by Jos. E. Bryan, Walter C. Warrington and Raymond D. Knight, Jr.

Fla., Ocala—Land Improvement.—Florida National Land Co. incorporated with \$24,000 capital stock; James J. Vorpe, president; W. Owen Gandy, vice-president; Charles S. Painter, secretary; W. Morris Jones, treasurer.

La., Breaux Bridge.—Mineral Water.—Evangeline Mineral Water Co. organized to develop mineral well.

La., Franklin—Orchard.—Island Orchard Co. organized by Donelson Caffery and associates; acquired portion of Cote Blanche Island and will establish orchard.

La., New Orleans—Garbage Stations.—City Engineer Willis is completing plans for proposed six stations for handling garbage; four 50 feet long, to accommodate one car, and two large enough for two cars; galvanized iron and general fireproof construction.

La., Shreveport.—Shreveport Transportation Co. organized with \$100,000 capital stock; Frank B. Lee, president; J. B. Ardis, vice-president; C. D. Kalmbach, secretary-treasurer; will operate steamboat line from Shreveport to New Orleans, La.

Md., Baltimore—Land Improvement.—M. Fillmore Carter, 1019 Milton Pl., has purchased and will develop tract of land on Belmont avenue, Walbrook; 460x377 feet; will subdivide into lots 38x150 feet; construct, grade and macadamize streets, erect 28 dwellings, etc.; cost of improvements, \$110,000.

Md., Baltimore—Photographic Studio.—Perkins Studio incorporated with \$5000 capital stock by Harry L. Perkins, 214 North Charles St.; Theodore Schneider, 1716 Warwick Ave., and Henry Schneider.

Md., Baltimore—Land Development.—German-American Colonization & Land Co. incorporated with \$10,000 capital stock by Herman Badenhop, Galtier Estate Bldg.; Herman Knollenberg, 112 South Patterson Park Ave., and Paul Johannsen, 1804 North Fulton Ave.

Md., Baltimore—Transfer.—Columbus Gordon Transfer Co. incorporated by Columbus Gordon, Herman T. Gordon, both of 816 North Eutaw St., and others.

Md., Baltimore—Candy, Photographic Supplies, etc.—F. W. Wagner Company incorporated with \$3000 capital stock by Clarence C. Foreman, Calvert Bldg.; Ernest D. Baker and Wallace D. White, 406 North Paca St.

Md., Baltimore—Land Improvement.—Colonial Park Hotel & Improvement Co. incorporated with \$40,000 capital stock by Charles C. Fields, 35 North Montford Ave.; Howard B. Shipley, 511 Chestnut Hill Ave., and others; will operate hotel and deal in land.

Md., Baltimore—Land Improvement.—Bready Realty Co., 440-A Equitable Bldg., incorporated by Henry Yewell Bready, G. Pitts Raleigh and R. Cecil Hogan.

Md., Baltimore—Land Improvement.—Century Realty Co. incorporated by Richard G. Hobbs, 3921 Park Heights Ave.; Pamela B. Wright and Mark Wright, 106 East Saratoga St.

Md., Baltimore—Sea Food, etc.—Bevans-Lynch Company incorporated with \$5000 capital stock by Charles C. Bevans, 1811 East Chase St.; Robert A. Lynch, 1839 Bolton St., and Thomas H. Manson, 1717 North Caroline St.

Md., Baltimore—Tools, Machines, etc.—Boyd-Eastman Company incorporated by William B. Boyd, 970 Park Ave.; Harry D. Eastman, 702 North Gilmer St., and others.

Md., Towson—Publishing.—Union News Publishing Co. incorporated with \$2500 capital stock by O. E. Weller and associates; acquired and will publish Baltimore County Union and Towson News, recently consolidated.

Miss., Meridian—Printing and Binding.—Dement Bros. Printing Co. has awarded contract to Rubush-Dabbs Construction Co., Meridian, Miss., for erection of printing and binding plant; 100x130 feet; two stories; mill construction; will install freight elevator; cost \$15,000; plans by P. J. Krause, Meridian. (Lately mentioned under "Miscellaneous Structures.")

Mo., Birmingham—Crushed Rock.—Kansas City Crushed Rock Co., recently reported incorporated with \$10,000 capital stock, has organized with Northrop Moore, president; Thos. A. Dodds, vice-president; C. B. Young, secretary and treasurer; has plant with daily capacity of 600 yards crushed rock; office of company, 322 New Ridge Building, Kansas City, Mo. (See "Machinery, etc., Wanted.")

Mo., Kansas City—Boat Line.—Kansas City, Missouri, Navigation Co. will be incorporated with \$1,000,000 capital stock by W. R. Nelson, Walter S. Dickey, Leon Smith and others to establish boat line to navigate Missouri River.

Mo., Kansas City—Public Garden.—William L. Rock is having plans prepared by George E. Kessler, New Orleans, for public garden; site contains 18 acres, containing two-acre lake, over which will be constructed rustic bridges and planted with aquatic plants and flowers; remaining portion will be planted with shrubs and flowers; cost, exclusive of ground, \$15,000.

Mo., St. Louis—Paving, etc.—Higgins Hauling & Paving Co. incorporated by Frank J. Rolfes, Martin Higgins and Bernard Butte.

Mo., St. Louis—Land and Construction.—Grant Land & Construction Co. incorporated with \$10,000 capital stock by Frank A. Charles and Emma Grant.

N. C., Cornelius—Publishing.—Cornelius News Publishing Co. incorporated with \$10,000 capital stock by A. Little, P. A. Stough and others.

N. C., Hickory—Grain, etc.—Marion Provision Co. incorporated with \$100,000 capital stock by P. G. Kiser, Hickory; J. K. Williams and Eugene Morrison, both of Statesville, N. C.

N. C., Leaksville—Mercantile.—Leaksville Mercantile Co. incorporated with \$25,000 capital stock by J. B. Flagg, Leaksville; J. G. McAllister, Fayetteville, N. C., and J. S. McAllister, Spray, N. C.

Okla., El Reno—Wholesale Furniture.—El Reno Wholesale Furniture Co. incorporated with \$10,000 capital stock by L. A. Nico's, J. C. Strong and others.

Okla., Enid—Automobiles.—Red Ball Automobile & Livery Co. incorporated with \$10,000 capital stock by W. H. Hill, George J. Emerick and Orle J. Wilkinson.

Okla., Fallis—Mercantile.—Roberson Mercantile Co. incorporated with \$5000 capital stock by J. C. Roberson, R. W. Roberson, both of Fallis, and L. E. Roberson, Carney, Okla.

Okla., Muskogee—Townsite.—Ford Townsite Co. incorporated by Charles Nelson, Jr., R. W. Duke and James R. Murray.

Okla., Oklahoma City—Land Improvement.—Oklahoma City Land & Development Co. incorporated with \$10,000 capital stock by W. F. Harn, John F. Whanna and others.

Okla., Oklahoma City—Land Improvement.—Conklin Land & Investment Co. incorporated with \$10,000 capital stock by D. K. Pope, Oklahoma City; T. A. Conklin and E. Y. Conklin, Charlotte, N. C.

Okla., Paul's Valley—Grain.—Mitchell Grain Co. incorporated with \$5000 capital stock by R. L. Mitchell, J. F. Ammonette and R. L. Settle.

Okla., Sulphur—Townsite.—Frisco Heights Townsite Co. incorporated with \$10,000 capital stock by J. L. Potts, Reuben Marlow and others.

Okla., Tishomingo—Elevator.—Tishomingo Elevator Co. incorporated with \$5000 capital stock by T. C. Ware, J. W. Chapman, C. W. Brown and others.

Tenn., Chattanooga—Iron and Metal.—Consolidated Iron & Metal Co. has increased capital stock from \$6000 to \$10,500.

Tenn., Chattanooga—Furniture.—Kirkpatrick Furniture Co., 257 Main St., incorporated with \$10,000 capital stock by E. B. Kirkpatrick, J. T. Kirkpatrick, Jr., A. L. Kirkpatrick and others; will continue furniture establishment of Montgomery Avenue Furniture Co.

Tenn., Erwin—Construction.—Unicoi Construction Co. incorporated with \$10,000 capital stock by W. B. Robertson, T. H. Mason, H. N. Helms and others.

Tenn., Knoxville—Land Improvement.—Tellico Realty Co. incorporated with \$100,000 capital stock by W. S. Miller, W. H. Kephart, R. P. Johnson and others.

Tenn., Knoxville—Land Improvement.—Fair Garden Land Co. incorporated with \$10,000 capital stock by H. H. Gallbraith, J. J. Gallbraith, Orton Patterson and others.

Tenn., Livingston—Land Improvement.—Conner Realty Co. incorporated with \$7000 capital stock by W. R. Officer, R. H. Hankins, M. Oscar Ward and others.

Tenn., Memphis—Implements and Vehicles.—Taylor Implement & Vehicle Co. incorporated with \$20,000 capital stock by Ford N. Taylor, E. A. Taylor, C. W. Mansur and others.

Tenn., Nashville—Cigars.—Southern Cigar Sale Co. incorporated with \$25,000 capital stock by Joseph L. Masey, D. S. Atkinson, J. C. Allen and others.

Tenn., Nashville—Printing.—Standard Printing Co. incorporated with \$50,000 capital stock by C. C. Slaughter, A. B. Hill, D. L. Scott and others.

Tex., Dallas—Construction.—Hatcher-Ritter Construction Co. incorporated with \$10,000 capital stock by W. R. Hatcher, F. E. Ritter and J. W. Vilbig.

Tex., Fort Worth—Paint and Glass.—Wise Glass & Paint Co. incorporated with \$5000 capital stock by A. B. Wise, W. B. Paddock and W. J. Wise.

Tex., Galveston—Plumbing.—Texas Plumbing Co. incorporated with \$2500 capital stock by S. A. Blasee, W. L. Ratisseau and Centry Walde.

Tex., San Antonio—Linen Supplies.—Martin Linen Supply Co. incorporated with \$3000 capital stock by James G. Fowler, Eugene A. Holmgren and P. L. Martin.

Tex., San Antonio—Garage.—John J. Stevens will erect garage; two stories and basement; reinforced concrete; 70x104 feet; Alken system of construction.

Tex., San Antonio—Supplies.—Martin Linden Supply Co. incorporated with \$3000 capital

stock by James G. Fowler, Eugene A. Holmgren and P. L. Martin.

Tex., Taylor—Garage.—Carl Grau will erect frame garage.

Tex., Terrell—Hardware.—Childress Hardware Co. incorporated with \$10,000 capital stock by B. M. Childress, M. C. Thompson and J. H. Wilson.

Tex., Uvalde—Trading.—Uvalde Trading Co. incorporated with \$10,000 capital stock by J. H. Zachry, B. E. Smith and D. C. Milam.

Va., Altavista—Hardware.—Cheatham-Fore Hardware Co. incorporated with \$5000 capital stock; R. H. Cheatham, president; R. M. Perrow, vice-president; J. G. Fore, secretary-treasurer, all of Lynchburg, Va.

Va., Cape Charles—Printing.—Cape Charles Five and Ten Cent Corporation incorporated with \$10,000 capital stock; William Brown, president; Max Brown, vice-president; G. I. McAllen, secretary-treasurer.

Va., Grafton—Marine Railway.—Company organized by W. F. Lawson, treasurer; W. F. Quinn, W. E. Weston and others to construct wharf and operate marine railway on Bennett's Creek; cost \$10,000.

Va., Norfolk—Land Improvement.—Ocean View Holding Co. incorporated with \$50,000 capital stock; Joseph Morris, president; C. O. Johnson, vice-president; A. M. Waddell, secretary-treasurer.

Va., Norfolk—Land Improvement.—East Norfolk Realty & Industrial Corporation incorporated with \$50,000 capital stock by Charles A. Holle, Norfolk; R. G. Hubbard, C. M. Alderson, both of Charleston, W. Va., and others.

Va., Norfolk—Land Improvement.—Ocean View Annex Co. incorporated with \$50,000 capital stock; Joseph Morris, president; W. T. Johnson, vice-president; A. M. Waddell, Jr., secretary-treasurer.

Va., Richmond—Publishing.—Rev. J. Sidney Peters is promoting organization of company with about \$125,000 capital stock to publish newspaper.

W. Va., Fairmont—Abattoir.—J. U. Wise & Co. will erect abattoir and cold-storage plant and install refrigerating machinery.

W. Va., Wheeling—Slaughter-house.—Geo. M. West will establish slaughter-house and cold-storage plant.

MISCELLANEOUS MANUFACTURING PLANTS

Ala., Daphne.—A. E. Strong and W. G. Brandenburg contemplate establishment of creamery and ice plant.

Ark., Marianna—Drugs.—Luers Drug Co. incorporated with \$6000 capital stock; R. C. Love, president.

Ark., Stuttgart—Trunks.—Howard Smith, Bearden, Ark., will establish trunk factory.

Ga., Rome—Steel Wheelbarrows.—Georgian Manufacturing Co. reported to double plant for manufacture of steel wheelbarrows.

Ky., Lexington—Tobacco Redrying.—W. L. Petty & Co. awarded contract to Combs Lumber Co., Lexington, for erection of redrying plant; two stories; brick; 90x200 feet; capacity 200,000 pounds daily; cost \$30,000.

Ky., Paducah—Tobacco.—John Hodge, Henderson, Ky., awarded contract at \$20,211.90 to George W. Katterjohn, Paducah, for erection of warehouse and stemmy, recently mentioned; two stories; brick; 100x240 feet.

Fla., Jacksonville—Coffee.—Neal Coffee Co., J. O. Check, president, Houston, Tex., and Nashville, Tenn., is negotiating for purchase of lease of suitable building to establish branch plant.

Ga., Atlanta—Automobiles.—Corker Motor Car Co. incorporated with \$25,000 capital stock by S. A. Corker, E. H. Ellenby and C. H. Alexander.

Ga., Atlanta—Trunks and Bags.—American Trunk & Bag Co. incorporated with \$20,000 capital stock; W. A. Riggsby, Augusta, Ga., president; R. L. Turman, Atlanta, treasurer; offices 19 Garnet St.

Ga., Atlanta—Fertilizer.—General Fertilizer & Phosphate Co. incorporated with \$100,000 capital stock by Isaac Schoen, Moses Schoen and Samuel Schoen.

La., Breaux Bridge—Sugar Refinery.—Evangeline Sugar Manufacturing Co. incorporated with \$100,000 capital stock; L. Ransome, president; J. W. Begnaud, vice-president; A. E. Broussard, treasurer; J. T. Lejeune, manager; will erect \$75,000 steel building; size 100x250 feet; mill construction; will install 1500-ton mill to manufacture sugar from cane; will commence building and open machinery proposals in December. (See "Machinery Wanted.")

La., Vinton—Calcasieu Land & Rice Co. incorporated with \$100,000 capital stock; G. C. Bagdy, president, Minneapolis, Minn.;

Ralph Bagdy, vice-president; Samuel Walsh, secretary, both of Vinton; will erect rice mill and irrigating canals.

Md., Baltimore—Bakery.—Welcome White Bakery Co. incorporated with \$15,000 capital stock by Wallace D. White, 406 North Paca St.; Elizabeth M. White and Howard M. Emmons, Calvert Bldg.

Md., Baltimore—Chemicals.—Cucumber Specialty Co. incorporated with \$25,000 capital stock by Ethel D. Sawkins, George T. Sawkins, both of 1812 Maryland avenue, and J. Berry Bourne, 2522 McCulloch St.

Md., Baltimore—Fertilizer.—United States Fertilizer Co. incorporated with \$100,000 capital stock by Alfred J. Carr, Roderick D. Coe and Charles R. Frankenberry, all of Law Building.

Md., Baltimore—Soaps, Washing Powder, etc.—Thompson Manufacturing Co. incorporated with \$40,000 capital stock by Levi A. Thompson, 422 East Fayette St.; George R. Flynn, 136 North Ann St., and Louis H. Lange, 426 North Broadway.

Md., Baltimore—Shoes.—Lombard Shoe Co. incorporated by Ambrose Vogt, Edward Weiler and Louis N. Frank, all of Calvert Building.

Md., Baltimore—Embroideries, etc.—Chesapeake Embroidery Manufacturing Co. incorporated with \$15,000 capital stock by Frank Herbert, George Herbert, both of 2130 East Baltimore street; Joseph Schamberger and Joseph Schamberger, Jr., both of 2122 East Baltimore street, has purchased building at Orleans and Bradford streets and will equip for the manufacture of embroideries.

Md., Funkstown—Canvas Gloves.—J. E. Keller contemplates establishing plant for manufacturing canvas gloves. (See "Machinery Wanted.")

Md., Hagerstown—Medicine.—Le Dane Medicine Co. incorporated with \$5000 capital stock by Thomas H. Le Dane, John M. Cramer and William F. Rowland.

Mo., Kansas City—Factory.—Maurice Berkowitz, secretary-treasurer Berkowitz Envelope Co., will erect factory building; five stories; cost, including ground, \$100,000.

Mo., St. Louis—Window-shade Holders, etc.—Hultt Door & Window Controller Co. incorporated with \$4000 capital stock by Richard Hultt, Charles C. Hultt, Camden Woofert and others.

Mo., St. Louis—Electrical and Mechanical Devices.—Rex Electric Co. incorporated with \$50,000 capital stock by Ronald Bates, Robert J. Parvin and others.

Mo., St. Louis—Antitoxin.—Wright-Duering Antitoxin Co. incorporated with \$50,000 capital stock by Henry C. Duering, James D. Van Hook and Charles O. Wright.

Mo., St. Louis—Skirts.—Montrose Garment Co. incorporated with \$5000 capital stock by Joseph H. Goldman, St. Louis; Frank K. Meeks, Kirkwood, Mo., and others.

N. C., Greensboro—Shoes.—C. M. Vanstory, W. S. Lyon and W. E. Allen are promoting establishment of \$50,000 shoe factory.

N. C., Mocksville—Pants and Overalls.—J. D. Hodges, No. 4, is interested in proposed pants and overall factory.

N. C., Oxford—Bags.—Golden Belt Manufacturing Co., Durham, N. C., contemplates establishment of branch plant; sewing machines to be operated by electricity from lines of Oxford Water & Electric Co. transmission.

Okla., Oklahoma City—Paints.—Southwestern Paint & Stain Co. organized with Frank Mattson, president; L. E. Pratt, vice-president; W. M. Fowler, secretary-treasurer; has purchased building and will equip for manufacture of paints.

Okla., Oklahoma City—Cherry Vim.—Cherry Vim Company incorporated with \$30,000 capital stock by G. W. Collignon, W. H. Dutton and J. W. Duke.

Okla., Valliant—Drugs.—Sobel Drug Co. incorporated with \$4000 stock by Henry Sobel, Marie Sobel, both of Fort Townsend, Okla., and Roscoe Pennwell, Valliant.

S. C., Anderson—Gas.—George C. Thompson, Spartanburg, S. C., will apply for franchise to establish gas plant.

S. C., Greenville.—Company organized in New York with Daniel J. Sully, president; Harris Hammond, treasurer; F. P. Stone, secretary, to manufacture cotton grader patented by L. A. Green, Greenville, contemplates establishment of similar plant at Greenville.

Tenn., Bristol—Bakery.—Herman Hecht will enlarge capacity of plant; has leased additional building and will install new bake oven, to cost \$1500, and scaling machine; ma-

chinery purchased; capacity of bakery 6000 loaves bread per 10 hours.

Tenn., Chattanooga—Bottling.—J. F. Johnston, president and manager Coca-Cola Bottling Works, 1107 Chestnut St., Chattanooga, is having plans prepared by Charles E. Bearden, Chamberlain Bldg., Chattanooga, for \$5000 bottling works; two stories; brick; composition roof; concrete floor to first story; electric lighting.

Tenn., Knoxville—Patent Articles.—R. M. Lindsay Manufacturing Co. incorporated with \$15,000 capital stock by R. M. Lindsay, H. B. Lindsay, R. S. Young and others.

Tenn., Nashville—Skirts.—Nashville Skirt Manufacturing Co. incorporated with \$10,000 capital stock by E. C. Boykin, C. W. Harmon, Jr., Thornton Hopkins and others.

Tenn., Nashville—Drugs.—Home Medicine Co. incorporated with \$10,000 capital stock by William Sparling, George S. Parkes, Harry S. Stokes and others.

Tex., Brownwood—Gas Plant.—E. K. Dunbar, Boston, Mass., will expend \$300,000 for establishment of gas plants in Brownwood, Temple and other Texas cities.

Tex., Clarendon—Creamery.—J. W. Quinn contemplates establishment of creamery.

Tex., Corsicana—Creamery.—J. R. Lacy, Hallettsville, Tex., contemplates establishment of creamery.

Tex., Dallas—Railway Gates.—Southwestern Gate Co. incorporated with \$100,000 capital stock by Sloan Simpson, Edward T. Harrison and Wm. M. Jones.

Tex., Dallas—Compressed Gas.—Southwestern Compressed Gas Co. incorporated with \$20,000 capital stock by Mauten W. Jones, A. Adams and John W. Turner.

Tex., Snyder—Marble-yard.—D. Anderson will establish marble-yard.

Tex., Temple—Gas Plants.—E. K. Dunbar, Boston, Mass., will spend \$300,000 for establishment of gas plants at Temple, Brownwood and other Texas cities.

Tex., Temple—Brooms.—T. M. McCann, Frankston, Tex., will establish broom factory.

Tex., Terrell—Drugs.—McGwiler Drug Co. incorporated with \$5000 capital stock by H. G. McGwiler, W. S. McGwiler and F. P. Yates.

Tex., Wichita Falls—Gloves.—F. Manuel Kell and Will Skeen will establish glove factory.

Va., Suffolk—Drugs, etc.—W. F. Byrd Drug & Chemical Co. incorporated with \$10,000 capital stock; W. F. Byrd, president, Windsor, Va.; J. E. Phillips, vice-president; John King, secretary-treasurer, both of Suffolk.

W. Va., Broadway—Incubator Alarms.—P. S. Martin Company organized by E. C. Rhodes, C. E. Spitzer and Mrs. Lizzie Martin; will establish plant for manufacturing incubator alarms.

W. Va., Richwood—Paper.—Cherry River Paper Co. will, it is reported, erect additional steel buildings and install new machinery for increasing capacity.

W. Va., Romney—Butter and Cheese.—Romney Elgin Butter Co. incorporated with \$5000 capital stock by T. E. Pownall, J. T. Goldsborough, F. A. Corder and others.

W. Va., Weston—Concrete Caskets.—R. A. Hillard, Parkersburg, W. Va., will, it is reported, establish plant for manufacturing patented casket made of combined marble and cement; will erect factory building.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Mo., St. Louis.—A. H. Joline, president of Missouri, Kansas & Texas Railway, announces in annual report his company will proceed (through its terminal company) to arrange for tracks, buildings, etc., for freight yards and terminals in North St. Louis; total cost estimated at \$4,000,000; S. B. Fisher, chief engineer.

Tenn., Memphis.—Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, Ky., purchased additional land near Leewood, east of Memphis, on which to construct freight yards; plans prepared by company's engineers.

Tex., Dallas.—Chicago, Rock Island and Gulf Railway, C. M. Case, chief engineer, Fort Worth, Tex.; Trinity & Brazos Valley Railway, P. G. Burns, chief engineer, Houston, Tex.; St. Louis & San Francisco Railroad, M. C. Byers, chief engineer, St. Louis, Mo., will construct freight terminals, freight-houses and outer yards; reported expenditure \$600,000.

W. Va., Princeton.—Virginian Railway, H. Fernstrom, chief engineer, Norfolk, Va., reported to build shops at Princeton; five buildings.

ROAD AND STREET IMPROVEMENTS

Ala., Attalla.—City will lay sidewalks. Address The Mayor.

Ala., Birmingham.—City opened bids September 15 for certain cement combined curb and gutter asphaltum, oil-binder macadam and bitulithic paving; Murray Nicholson, City Engineer.

Ala., Dothan.—Houston county will probably construct 60 miles of sand and clay roads during next 12 months; cost \$18,000; J. S. Mickle, county engineer.

Ala., Evergreen.—Conecuh county will probably construct 50 miles of sand and clay roads during next 12 months; approximate cost \$20,000; B. B. Finkler, county engineer.

Ala., Gadsden.—Etowah county expects to build 15 to 20 miles flag and chert road during next 12 months; cost about \$20,000; J. W. Penn, Judge of Probate.

Ala., Huntsville.—City will pave, curb and gutter sidewalks on Eustis street; bids to be opened October 19; Thomas W. Smith, Mayor. (See "Machinery Wanted.")

Ala., Mobile.—Mobile county will probably construct 15 miles of chert, gravel and shell roads during next 12 months; cost \$50,000; R. B. Stewart, Whistler, Ala., county engineer.

Ala., Oneonta.—Blount county will probably build 100 miles of chert and limestone road during next 12 months; cost about \$1000 per mile; J. T. Blalock and others, County Commissioners.

Ark., Nashville.—City will pave portion of Main street. Address The Mayor.

D. C., Washington.—George E. Garrett, engineer, 605 12th St. N. W., Washington, completed surveys for proposed road between Alexandria, Va., and Washington; estimated cost \$47,000.

Fla., Inverness.—Citrus county will probably construct 18 miles of rock roads during next 12 months; cost about \$1200 per mile; Walter F. Warnock, Clerk.

Fla., Jacksonville.—City Council is considering ordinance appropriating \$10,000 for construction of sidewalks; William S. Jordan, Mayor.

Fla., Jacksonville.—Duval County Commissioners awarded contract to Peninsula Engineering Co. of Jacksonville for construction of one mile of brick paving on Pablo Beach and Kings roads; cost \$15,000 to \$20,000.

Fla., Jacksonville.—Board of Public Works instructed Philip Prieoleau, City Engineer, to invite bids for construction of sidewalk seven feet wide on both sides of Union street; walk to be of white hexagon tile; specifications on file in engineer's office.

Fla., Milton.—Santa Rosa county will probably build 30 miles of sand, clay and gravel roads during next 12 months; cost about \$60,000; Curtis Jernigan and others, Commissioners.

Fla., Sumterville.—Sumter county will probably construct six miles of lime, marl or clay and sand roads during next 12 months; cost \$700 per mile; W. H. Crenshaw, clerk.

Ga., Atlanta.—City will pave Marietta and Forsyth streets with creosoted wooden block; bids to be opened September 20; R. M. Clayton, City Engineer. (See "Machinery Wanted.")

Ga., Cordele.—Crisp county will probably construct 150 miles of clay roads during next 12 months; approximate cost \$50 per mile; J. A. Littlejohn, Clerk.

Ga., Fitzgerald.—Ben Hill county will probably build 100 miles of clay roads during next 12 months; approximate expenditure \$650 per month; F. T. Tyler, County Engineer.

Ga., Folkston.—Charlton county will probably construct 15 miles of soil and clay road during next 12 months; cost \$300 per mile; J. R. Cooper, County Engineer.

Ga., Fort Gaines.—Clay county will probably build 300 miles of clay and sand or macadam road during next 12 months; cost about \$1000 per mile; W. A. Boyett, County Engineer.

Ga., Griffin.—City awarded contract at \$70,000 to Georgia Engineering Co., Augusta, Ga., to lay 85,000 square yards vitrified brick paving.

Ga., Hartwell.—Hart county will probably construct 40 to 50 miles of road during next 12 months; materials: sand and clay; S. H. White, County Commissioner.

Ga., Hawkinsville.—Pulaski county will probably construct 300 miles of clay and soil roads during next 12 months; cost \$100 per mile; J. Holden, County Commissioner.

Ga., Homer.—Banks county will probably construct 30 miles of soil roads during next

12 months; approximate cost \$400 per mile; Logan Perkins, engineer.

Ga., Homerville.—Clitch county will probably construct 50 miles of clay and sand roads during next 12 months; cost \$3000; W. T. Smith, County Engineer.

Ga., Leesburg.—Lee county will probably build 35 or 40 miles of dirt road; cost, \$200 per mile; County Engineer, J. M. McBride.

Ga., Nashville.—Perrien county will probably build 10 miles of road during next 12 months; cost, \$500 per mile; S. B. Dorman and others, Commissioners.

Ga., Newnan.—Coweta county will probably construct 20 miles of sand and clay roads during next 12 months; cost \$40,000; H. C. Glover, County Commissioner.

Ga., Rome.—City will pave East 1st street with vitrified brick; about \$100,000 to be expended. Address The Mayor.

Ga., Savannah.—Chatham County Commissioners decided to construct proposed road to Wilmington Island, estimated to cost \$20,000.

Ga., Swainsboro.—Emanuel county will probably build 100 miles of sand and clay roads during next 12 months; cost \$3000 per mile; D. D. Brinson and N. E. Cross, County Engineers.

Ga., Thomson.—McDuffie county will probably build 200 miles of sand and clay roads during next 12 months; Thomas Norris and others, County Commissioners.

Ga., Vienna.—Dooley county will probably build 75 to 100 miles dirt road during next 12 months; cost about \$200 per mile; R. E. Kelly, chairman of Commissioners.

Ga., Warrenton.—Warren county will probably build 15 to 50 miles of clay and sand gravel road during next 12 months; cost \$100 to \$300 per mile; Tom Smith, County Engineer.

Ga., Waycross.—Ware county will probably build 12 to 20 miles of clay and sand road during next 12 months; cost about \$8000 to \$10,000; B. H. Thomas, chairman County Commissioners.

Ky., Benton.—Marshall county will probably build 15 miles of gravel road during next 12 months; cost about \$300 per mile; road supervisor, R. J. Fisher.

Ky., Carlisle.—Nicholas county will probably construct five miles of stone roads during next 12 months; cost \$1750 per mile; John M. Campbell, county clerk.

Ky., Danville.—Boyle county awarded contract for construction of five miles of road. Address County Commissioners.

Ky., Franklin.—Simpson county will probably construct 15 miles of rock and gravel roads during next 12 months; approximate cost \$1800 per mile; A. H. Hill, Clerk.

Ky., Glasgow.—Bacon county will probably construct six miles of stone road during next 12 months; approximate cost \$18,000; N. J. Fisher, County Commissioner.

Ky., Scottsville.—Allen county will probably build 15 to 25 miles of gravel road during next 12 months; cost \$1000 per mile; W. H. Justice, County Clerk.

Ky., Vanceburg.—Lewiss county will probably build five or six miles of limestone rock road during next 12 months; cost \$1500 to \$2000 per mile; Ivan W. Sanders, County Engineer.

La., Jennings.—City will construct concrete sidewalks and curbing on 30 of principal streets, amounting to about 15 miles; walks in business section to be eight feet wide, in principal resident districts five feet wide, exclusive of eight-inch curbing, and remainder of walks four and one-half feet wide, exclusive of eight-inch curbing. Address J. M. Greer, civil engineer.

La., Lake Providence.—City will soon award contract for four miles of sidewalk. Address The Mayor.

La., Mandeville.—City Council is considering construction of shell road. Address The Mayor. (See "Miscellaneous Construction Work.")

Md., Baltimore.—State Roads Commission, John M. Tucker, chairman, Union Trust Bldg., awarded following contracts for road construction: Howard county, 3 1/4 miles, M. Bennett, \$31,900.90; Carroll county, 1.1 miles, David E. Walsh, \$7527.90; St. Mary's county, 3 1/2 miles, McCormick & Co., \$40,470.92; Harford road, 2.9 miles with pitched macadam, D. V. Ault, manager Booth & Flynn, 2400 Oak St., at \$40,487; Patrick Reddington & Sons, 321 St. Paul St., for improvement of Falls road with vitrified brick at \$41,614.25, width of road to be 40 feet; D. V. Ault, lowest bidder at \$39,810.37 for paving Westport road, distance of 2000 feet, with vitrified brick, and balance with pitched macadam road to be 50 feet wide; bids for improving 4 1/2 miles of road in Washington county were rejected.

Miss., Greenwood.—City awarded contract to Oxford (Miss.) Concrete Co. at 10 cents per square foot for construction of five miles of concrete sidewalks; R. H. Hicks, City Clerk. (Lately mentioned.)

Miss., Prentiss.—Jefferson Davis county will probably construct 350 miles of roads during next 12 months; cost per mile \$60; J. M. Burrow, County Commissioner.

Miss., Scranton.—Jackson county will probably construct 200 miles of earth roads during next 12 months; approximate cost \$30,000; M. L. Cully, Clerk.

Miss., Vicksburg.—City is readvertising for bids for paving Cherry, Harris and Drummond streets; about 40,000 square yards creosoted wood block, vitrified brick, asphalt, bitulithic or granitoid; C. R. Twiss, City Engineer. (See "Machinery Wanted.")

Mo., Chillicothe.—Livingston county will probably build five miles of rock road during next 12 months; Thomas Hurst, county engineer.

Mo., Hermann.—Gasconade county will probably construct two miles of macadam and gravel roads during next 12 months; approximate cost \$5000; J. C. Danuser, county engineer.

Mo., Houston.—Texas county will probably construct stone and gravel road during next 12 months; cost about \$500 per mile; J. M. Denny, county clerk.

Mo., St. Joseph.—Buchanan county will probably build six miles of macadam road during next 12 months; cost about \$30,000; L. M. Stanard, county engineer.

N. C., Asheville.—Buncombe county will probably construct 20 miles of macadamized road during next 12 months; approximate cost \$5000 per mile; B. M. Lee, engineer.

N. C., Clinton.—Sampson county will probably construct 40 miles of sand and clay roads during next 12 months; cost \$250 per mile; T. E. Howard, county engineer, Salem, N. C.

N. C., Concord.—Cabarrus county contemplates construction of five miles of stone and gravel road; cost \$10,000; work to be done by permanently employed force; G. E. Kestler, member County Commissioners.

N. C., Hendersonville.—City will vote September 25 on issuance of bonds for cement sidewalks. Address The Mayor.

N. C., Lenoir.—Lenoir & Blowing Rock Turnpike Co. is arranging to begin construction of proposed macadam road from Lenoir to Blowing Rock, distance of 25 miles; estimated cost \$75,000 to \$100,000. G. F. Harper and R. L. Gwyn, both of Lenoir, are interested in company.

N. C., Lexington.—Lexington township will vote October 12 on issuance of \$100,000 of bonds to macadamize roads. Address County Commissioners.

N. C., Murphy.—Cherokee county will probably build four or five more miles of crushed stone roads during next 12 months; cost about \$500 per mile. Address Cherokee County Commissioners.

N. C., Nashville.—Nash county will vote October 16 on issuance of \$20,000 of bonds for road improvements. Address County Commissioners.

N. C., Newbern.—City will open bids September 20 for placing 20,000 feet of curb; F. T. Patterson, City Clerk. (See "Machinery Wanted.")

N. C., Newbern.—City will vote October 12 on issuance of \$50,000 of bonds for street improvements; F. T. Patterson, City Clerk.

N. C., Rockingham.—Beaver Dam township of Rockingham county will vote October 12 on issuance of \$15,000 of bonds for road improvements. Address County Commissioners.

N. C., Roxboro.—Person county will probably construct 20 miles of dirt, soil or sand roads during next 12 months; cost about \$100,000; R. S. Hall, Roxboro, County Engineer.

N. C., Winton.—Herford county will probably construct 20 miles of sand or clay roads during next 12 months; A. R. Parker, County Commissioner.

N. C., Winston-Salem.—City awarded contract to Atlantic Bitulithic Co., Mutual Bldg., Richmond, Va., to pave Spruce and Cherry streets—36,000 square yards—at \$2.25 per square yard.

N. C., Yanceyville.—Caswell County Macadam Road Co., B. S. Graves, president, awarded contract to S. G. Woods of Yanceyville to construct first five miles of road from North Carolina line near Gatewood to Yanceyville; Julian Hall will be engineer in charge; city of Danville, Va., has agreed to build similar road from city to meet company's road at State line, distance of three miles; remaining eight miles will probably be constructed as soon as present contracts are completed. (Lately noted.)

Okla., Elk City.—City will construct eight blocks of sheet-asphalt paving, including grading, storm sewers, curb and gutter, etc.; bids to be opened September 27; R. J. Carlisle, City Clerk; F. H. Lancashire, engineer, Wilson Bldg., Dallas, Tex. (See "Machinery Wanted.")

Okla., Madill.—Marshall county will probably build 50 miles of roads during next 12 months; J. B. Rybinson, County Engineer.

Okla., Vinita.—City will grade, curb, gutter and pave South Wilson street; date of opening bids September 14; A. J. Green, City Clerk.

S. C., Camden.—Kershaw county will probably construct 40 miles of sand and clay roads during next 12 months; cost \$500 per mile; M. C. West, county supervisor.

S. C., Mencks Corner.—Berkeley county will probably construct 15 miles of road during next 12 months; clay and sand materials; cost \$300 per mile; W. H. Dennis, county engineer.

S. C., St. Matthews.—Calhoun county will probably construct 100 miles of sand and clay roads during next 12 months; estimated cost \$4000; J. L. Zeigler, County Engineer.

Tenn., Bristol.—Sullivan county will grade and macadamize 60 miles of road; bids to be opened October 9; F. G. Phillips, engineer; John H. Caldwell and others, commissioners. (See "Machinery Wanted.")

Tenn., Chattanooga.—Board of Public Works, H. F. Van Dusen, chairman, awarded contract to E. P. Norris, contractor, Duncan avenue and Spruce street, Chattanooga, at \$337.57 for building 950 feet chert roadway on Houston street; limestone curb; vitrified brick gutters.

Tenn., Dandridge.—Jefferson county Pike Commissioners, Hal S. Harris, secretary, awarded contract to Borches & McCreary, Knoxville, Tenn., for grading 35 miles road, and to F. E. Brady, Knoxville, contract to macadamize about 65 miles; F. G. Phillips, engineer. (Recently noted.)

Tenn., Gallatin.—Sumter county will probably construct 10 miles of stone road during next 12 months; approximate cost \$10,000; Harris Brown, Clerk.

Tenn., Humboldt.—City will vote September 30 on issuance of \$30,000 additional bonds for street paving. Address The Mayor.

Tenn., Knoxville.—Board of Public Works awarded contract to Patrick Campbell of Knoxville to grade Owen and Dewey streets.

Tenn., Madisonville.—Monroe county will probably build 150 miles of dirt roads during next 12 months; cost about \$100,000; J. J. Howard, chairman of commissioners.

Tenn., Morristown.—Hamblen county will probably construct 65 to 75 miles of rock and gravel road during next 12 months; cost about \$3000 per mile; Mr. Gallaher, county engineer.

Tex., Conroe.—Montgomery county will likely construct about 25 miles of dirt road during next 12 months; estimated cost \$1000 per mile; S. A. McCall, Willis, Tex., County Commissioner.

Tex., Dallas.—Dallas county will open bids September 18 for construction and repairing of various roads; J. F. Witt, county engineer. (See "Machinery Wanted.")

Tex., Decatur.—Wise county will probably build 50 to 100 miles of gravel and clay roads during next 12 months; A. Devereux, County Engineer.

Tex., Henderson.—Rusk county will probably construct 50 miles of road during next 12 months; materials, earth and lumber; Arthur Hunt, county surveyor.

Tex., Hillsboro.—Hill county will probably construct 80 miles of concrete gravel and white rock roads during next 12 months; cost about \$250,000; Peppy Harwood, County Clerk.

Tex., Houston.—City will issue \$100,000 of bonds for street paving; H. B. Rice, Mayor.

Tex., Longview.—Gregg county will probably build 35 miles of clay and sand road during next 12 months; J. H. Haney, County Judge.

Tex., Marshall.—Harrison county will probably construct 50 miles of clay and sand roads during next 12 months; cost \$10,000; H. L. Lyttleton, county judge.

Tex., Midlothian.—Midlothian Road Improvement District voted \$75,000 bond issue for road construction. Address County Commissioners, Waxahachie, Tex. (Lately noted.)

Tex., Richmond.—Fort Bend county has provided for cutting new roads and may build 75 miles during next 12 months; Clifton Rice, County Engineer.

Tex., Texarkana.—Bids will be opened October 7 for construction of roads and bridges in Road District No. 1 of Bowie county; J.

W. Maxcy Company, Houston, Tex., is in charge; A. B. DeLoach, Mayor of Texarkana; Joseph H. Hughes, county judge, New Boston, Tex. (See "Machinery Wanted.")

Tex., Weatherford.—Parker county will probably construct 100 miles of road during next 12 months; materials, gravel, etc.; cost \$200,000; F. O. McKinsey, county judge.

Va., Cumberland.—Cumberland county will probably repair dirt or clay roads during next 12 months; approximate cost \$7000; C. C. Cooson, County Commissioner.

Va., Hampton.—City awarded contract to R. H. Richardson & Son, Hampton, for vitrified brick paving with five-inch base of concrete; estimated cost \$100,000. (Erroneously reported lately under Newport News, Va.)

Va., Lancaster.—Lancaster county will probably construct eight miles of sand and clay roads during next 12 months; estimated cost \$300 per mile; W. G. Beane, County Commissioner.

Va., Houston.—Warwick county contemplates construction of one or two miles shell road at cost of \$4000; A. B. Edmonds, county engineer, Newport News, Va.

Va., Houston.—Halifax county contemplates construction of 10 to 20 miles gray-soll road; cost \$400 to \$800 per mile; built under auspices of State Highway Commission. R. S. Barbour, chairman Board of Supervisors, Richmond, Va.

Va., Jonesville.—Lee county will probably build five miles of limestone rock road during next 12 months; cost about \$12,000; H. C. T. Ewing, County Clerk.

Va., Portsmouth.—Norfolk county will probably build about 30 miles of road during next 12 months; macadam construction; cost about \$200,000; engineer in charge, Wm. G. Brown, Portsmouth.

Va., Richmond.—I. J. Smith & Co., contractors, Richmond, are grading and preparing Battery Court for sidewalks and sewerage.

Va., Roanoke.—City proposes to vote December 11 on issuance of \$25,000 of bonds for street improvements. Address The Mayor.

Va., Roanoke.—Crystal Spring Land Co., T. W. Goodwin, president, will construct about 15,000 yards graded streets, in addition to 50,000 to 75,000 feet five-foot granolithic sidewalks recently mentioned.

Va., Spotsylvania.—Spotsylvania county contemplates building 43 miles of stone and gravel road during next 12 months; cost about \$100,000; county surveyor, John M. Holliday, Holliday, Va. (Spotsylvania county recently noted to vote on \$40,000 for road improvements in Chancellor District and \$60,000 in Courtland District.)

Va., Winchester.—Frederick county contemplates construction of two or three miles road; limestone (crushed) rock; cost \$400 to \$1000 per mile; Melvin Green, county official.

W. Va., Brandywine.—Bids will be opened September 18 for construction of one mile and 600 feet of Shenandoah Mountain road; L. C. Davis and others, road superintendents. (See "Machinery Wanted.")

W. Va., Charleston.—Charleston, Union and Pocahontas districts of Kanawha county will vote on issuance of \$135,000, \$30,000 and \$15,000 of bonds, respectively, for road construction. Address County Commissioners.

W. Va., Kenova.—City awarded contract to Ironton (Ohio) Construction Co. for paving.

W. Va., Parkersburg.—City will open bids September 22 for laying certain cement curbing and on September 23 for paving on Murdoch avenue, 19th, Mary and 10th streets; appropriation for curbing, \$6000; Frank Good, Auditor. (See "Machinery Wanted.")

W. Va., Parkersburg.—Wood county will probably construct three to five miles of road during next 12 months; material: mostly brick; C. Skidman, County Engineer.

W. Va., Wheeling.—Ohio County Commissioners will open bids September 20 for macadamizing various roads; A. S. Bell, County Engineer. (See "Machinery Wanted.")

SEWER CONSTRUCTION

Ala., Attalla.—City will construct sewer system. Address The Mayor.

Ark., Little Rock.—Pfeifer-Himstedt Plumbing Co. of Little Rock has contract at \$4000 to construct sewer in District 55 in Eighth ward.

D. C., Washington.—Bids will be opened September 27 for construction of sewers in District of Columbia; Henry B. F. Macfarland and others, commissioners. (See "Machinery Wanted.")

Ga., Cuthbert.—City will vote October 12 on issuance of bonds to construct sanitary sewer system, etc. (See "Water-works.") Address The Mayor.

Ky., Winchester.—City will vote in November on issuance of \$65,000 of bonds for construction of sewer system. Address The Mayor.

Md., Baltimore.—Sewerage Commission, 304 American Bldg., recommends award of contracts for sewer work as follows: Disposal plant at Forest Park at \$30,817.70 to Lane Bros. Co. & Jones, Fidelity Bldg.; trunk sewers in Forest Park at \$80,696.25 to T. Wallace Reilly, North and Eager Sts.; Jones' falls sanitary sewer interceptor at \$43,925.50 to M. A. Talbott Company, American Bldg.; lateral sewers throughout northeastern section of city at \$69,459.25 to William McCarthy & Co. of Pittsburg, Pa., with Baltimore office at Sharp and Hill streets; storm-water drains at \$5117.40 to M. O'Herron, care of William McCarthy & Co. at Baltimore; total amount of bids, \$229,925.10.

N. C., Edenton.—Wm. M. Lyon, 305 Duval Bldg., Jacksonville, will make survey and plans for sanitary sewer system. Mr. E. M. Gibbon, recently noted in this connection, made preliminary survey under Mr. Lyon's direction.

N. C., Washington.—City will not at present construct gravity sanitary sewer system recently mentioned; C. H. Stirling, Mayor.

Okla., Hominy.—City awarded contract to J. L. McFarland, Dewey, Okla., to install sewer and water systems at cost of \$35,000.

Tenn., Binghamton.—City awarded contract at \$21,000 to H. W. Brennan of Memphis to construct sewer system, including excavation and filtration plant. (Noted in July.)

S. C., Manning.—Manning Sewerage Co., recently reported incorporated with \$7000 capital stock by A. Levi and others, has awarded contract at \$6000 to Bow & Page, Augusta, Ga., for construction of sewer on Main street, Manning.

Tex., Houston.—City awarded contract to J. C. Underwood of Houston to construct sanitary sewers in Sixth and First wards; work will comprise 320 linear feet 24-inch pipe, 5749 linear feet 15-inch pipe, 557 linear feet 12-inch pipe, 2576 linear feet 8-inch pipe, with necessary manholes and flush tanks, etc.; F. L. Dormant, consulting engineer, Houston; H. B. Rice, Mayor; appropriation, \$27,000. (Lately noted.)

Tex., Lockhart.—City awarded contract at \$2083 to Heffron & Falligant, Galveston, Tex., to extend sewer system.

Tex., Lufkin.—City will extend sewer system. Address The Mayor.

Va., Richmond.—I. J. Smith & Co., contractors, of Richmond, are grading and preparing Battery court for sewerage and sidewalks.

Va., Roanoke.—City proposes to vote December 11 on issuance of \$70,000 of bonds for improvement of sewer system. Address The Mayor.

W. Va., Kingwood.—City will vote on issuance of bonds for construction of sewerage system. Address The Mayor.

TELEPHONE SYSTEMS

Ala., Troy.—Southern Bell Telephone & Telegraph Co., main office Atlanta, Ga., will expend about \$22,000 for installation of entire new system; will install new wire, apparatus, switchboards, all appurtenances at the exchange and new phones in dwellings and business houses; construction begun; T. F. Powell, local manager.

Miss., Tylertown.—Cumberland Telephone Co., main office Nashville, Tenn., is arranging to establish telephone system.

Mo., St. Louis.—Home Co-operative Telephone Co. incorporated by John R. Gay, Truman B. Barnes, both of Maplewood, Mo.; F. A. O'Connor, St. Louis, and others.

Okla., Carnegie.—Spring Valley Rural Telephone Co. incorporated by Chas. Lunsford, S. A. Van Cleave, H. Kindbale and others.

Tenn., Ripley.—Lightfoot Telephone Co. incorporated with \$4000 capital stock by J. H. Coughlan, W. H. Foust, W. F. Roberson and others.

Tenn., Smithville.—Smithville Home Telephone Co. incorporated with \$3000 capital stock by T. W. Wade, J. H. Christian, W. H. Davis and others.

Tex., Amarillo.—Oldham Telephone & Telegraph Co., C. C. Tabor, president, 233 Taylor street, will construct telephone line recently mentioned; will locate plants in and extend lines to Wildorado, Vega and Adrian, Tex.

Tex., Coleman.—West Texas Telephone Co. will, it is reported, expend \$16,000 for improvements; will install new cables, 800-box flashlight switchboard and make other improvements.

Tex., Dallas.—Dallas Independent Telephone Co. will erect telephone building; three stories and basement; fireproof; cost \$40,000.

W. Va., Point Pleasant.—Old Town Mutual Telephone Co. incorporated with \$5000 capital stock by John R. Stewart, John Clendennin and others.

TEXTILE MILLS

Ark., Fort Smith.—Great Southern Cotton Mills to be organized by S. S. Lowrey, 12 North 6th St., and Wm. H. Talmage; has not purchased any machinery. (See "Machinery Wanted.")

Md., Baltimore.—Artificial Silk.—Shr. E. Herlein, 524 Broadway, New York, contemplates locating artificial-silk mill at Baltimore; would require 10-acre site and daily supply of 750,000 gallons soft water.

Md., Hechester.—Cotton Cloth, etc.—Thistle Mills incorporated with capital stock of \$150,000 by Albert A. Blakeney, Redmond C. Stewart and Frank B. Smith; will continue established plant.

Miss., Laurel.—A. W. Noble, Mayor, is negotiating with manufacturers who contemplate building cotton mill.

Mo., St. Louis.—Hosiery.—St. Louis Knitting Co. incorporated with capital stock of \$300 by Chas. A. Schreiber and others.

N. C., Bessemer City.—Chambrays, etc.—Mascot Cotton Mill Co. organized to succeed Bessemer City Cotton Mills; capital stock \$50,000; has 9000 spindles and 406 looms; contemplates building water tower and improving dyehouse; C. W. Fuller, president.

N. C., Raleigh.—Knit Goods.—Acme Knitting Mills will be established by J. E. Matthews.

N. C., Roanoke Rapids.—Ginghams.—Patterson Mills Co. has plans for buildings and will award construction contract within two weeks; will erect main building two stories high, 165x568 feet, 90 tenement cottages and six overseers' dwellings; will equip with 22,000 spindles, 750 looms, dyeing and finishing machinery, etc., driven by 1000 electrical horse-power; architects in charge, Lockwood, Greene & Co., 93 Federal St., Boston, Mass. (Organization and other details reported previously.)

N. C., Rockingham.—Cotton Cloth.—Entwistle Manufacturing Co., reported incorporated last month, etc., has engaged Stuart W. Cramer of Charlotte, N. C., as engineer-architect to plan, build and equip proposed plant; to have 40,000 spindles, 1000 looms, etc.; capital stock \$500,000; president, William Entwistle.

N. C., Thomasville.—John W. Cannon and J. F. Cannon of Concord, N. C., and C. G. Hill of Winston-Salem will form company to build cotton mill at Thomasville.

N. C., Thomasville.—Cotton Yarns.—Jewel Cotton Mills incorporated with capital stock of \$250,000; will build plant of 5000 spindles; erect 78x300-foot building of brick and cement; install steam plant and electric generator for 200 horse-power, or buy electricity from local transmission of Southern Power Co. of Charlotte, N. C.; planning mill to double equipment when desired; president, J. L. Arnfield of Thomasville; vice-president, W. W. Hagood of Charlotte, N. C.; secretary-treasurer, T. J. Illard, also of Charlotte.

N. C., Winston-Salem.—Knit-goods Bleachery.—Maline Knitting Mills Co. awarded contract to J. F. Ange, Winston-Salem, for construction of knit-goods bleachery; 60x170-foot building; brick; improved mill construction; steam-heating apparatus; electric-lighting fixtures; modern machinery for bleaching knit goods; daily capacity 30,000 pounds.

Okla., Lawton.—Laces, etc.—Lawton Textile Manufacturing Co., etc.; information can be obtained by addressing D. S. Curtis, general agent executive and operating department, 164 Dearborn street, Chicago, Ill., and Brown Cornelson, agent land and buildings, Lawton. (Details of plans for mill reported lately.)

S. C., Greenwood.—F. S. Evans plans organization of \$300,000 company to build cotton mill lately mentioned.

S. C., Westminster.—Sheeting, etc.—Cheswell Cotton Mill Co. increased capital stock from \$200,000 to \$300,000 and changed name to Geonce Mills Co.; present equipment, 10,272 ring spindles, 362 looms, etc.

WATER-WORKS

Ala., Birmingham.—Birmingham Water-Works Co. awarded contract for construction of another 30-inch water main into city from pumping station on Cahaba River and for erection of standpipe on top of Red Mountain to have capacity of 250,000 gallons and be connected with 24-inch main laid from force pump at Cahaba station; 30-inch main contracted for will be connected with 42-inch main through Red Mountain tunnel, which

will allow for another 30-inch main as necessity demands; company has practically decided to locate new pumping station, originally intended for Highland avenue, on south slope of Red Mountain; station is to be 40x70 feet, outer walls to be of pressed brick and inner walls of white enameled brick; entire work is to be finished by February 1, at which time it is expected that Lake Purdy dam, which will create reservoir containing 6,000,000 gallons of water and covering 1000 acres, will be practically completed.

Ala., Eufaula.—City awarded contract to J. B. McCrary & Co., Empire Bldg., Atlanta, Ga., to construct settling basin for water-works.

Ga., Cuthbert.—City will vote October 12 on issuance of bonds for extending and improving water-works system, drilling artesian wells, constructing sanitary sewer system, extending and improving electric-light system, etc. Address The Mayor.

Md., Baltimore.—Daniel B. Banks, Maryland Savings Bank Bldg., consulting engineer, is preparing specifications providing for construction of city's pipe-line station to be located on South street, between Pratt and Lombard streets; bids will probably be advertised for within next 10 days.

Md., Takoma Park, independent station, Washington, D. C.—City voted \$10,000 bond issue to install filtration plant with daily capacity of 150,000 gallons of water, install water meters and raise dam over Sligo Creek. Address The Mayor. (Lately mentioned.)

Mo., Kansas City.—Jackson County Court approved plans submitted by Smith & Rea of Kansas City for construction of reservoir near county hospital; reservoir to be 500 feet square, 14 feet deep; capacity, 18,000,000 gallons; bids are invited.

N. C., Charlotte.—Water Commissioners instructed Joseph Firth, City Engineer, to begin survey of route from city to Catawba River to ascertain cost of piping water from river.

N. C., Newcastle.—Craig Healing Springs Co., G. W. Layman, president, will install water-works system, etc. (See "Hotels.")

Okla., Hominy.—City awarded contract to J. L. McFarland, Dewey, Okla., to install water and sewer systems at cost of \$35,000.

Okla., Shawnee.—City will vote on issuance of \$25,000 of bonds for water-works and \$10,000 for fire department. Address The Mayor.

Okla., Wetumka.—Federal Engineering & Contracting Co., Okmulgee, Okla., recently noted to have received contract at \$40,000 to construct city water-works, will ask bids on materials and equipment. (See "Machinery Wanted.")

Okla., Yukon.—City contemplates making plans for water-works; may construct same in spring of 1910; J. F. Kroul, chairman of committee. (Bond issue, previously mentioned, not yet voted.)

Tenn., Binghamton.—City awarded contract at \$16,000 to P. H. Porter, Louisville, Ky., for construction of water system; J. A. Omberg, Jr., Goodwyn Institute, Memphis, Tenn., is engineer. (Lately noted.)

Tenn., Johnson City.—City voted to construct gravity water-works system, securing water from mountain springs 11 miles from city; 7,000,000 gallons of water daily; pressure for fire protection, 110 pounds; cost \$300,000. Address The Mayor.

Tex., Brownwood.—City will vote on issuance of \$20,000 of bonds for extension of water mains, construction of filtering system and removal of standpipe. Address The Mayor.

Tex., Dallas.—City will open bids November 10 for installation of water-works pumping engine in pumping station at White Rock reservoir; minimum capacity in 24 hours 15,000,000 gallons; certified check, 5 per cent. of bid; in regular service engine is to pump against head of 162 feet above basement floor and be capable of fire pressure against 225 feet for indefinite time; J. M. Bassett, water engineer.

Tex., El Paso.—Water-works Committee, James G. McNary, chairman, recommends purchase of water-works by city for \$700,000 and expenditure of \$500,000 for improvements.

Tex., Ennis.—City will vote October 5 on issuance of \$12,000 of bonds to complete water-works. Address The Mayor.

Tex., Hamilton.—City voted bond issue for construction of water-works. Address The Mayor.

Tex., Palacios.—Palacios Water Supply Co. incorporated with \$20,000 capital stock by C. Doss, R. J. Hill and W. C. Williams.

Tex., Taylor.—International & Great Northern Railroad, O. H. Crittenden, consulting engineer, Palestine, Tex., invites bids for

construction of storage tank, reservoir and dam near Taylor; lake or reservoir to cover 17 acres. Mr. Crittenden submitted plans and specifications to Henry B. Seiders, contractor, of Taylor.

Tex., Waxahachie.—City will vote October 12 on issuance of \$17,000 of bonds for extension of water-works. Address The Mayor.

Va., Christiansburg.—City awarded following contracts for furnishing supplies for water-works system: Lynchburg Foundry Co., Lynchburg and Radford, Va., for piping, and Rensselaer Manufacturing Co., Troy, N. Y., for gate, check, foot and relief valves, valve boxes and fire hydrants; Howard Murphy, 426 Walnut St., Philadelphia, Pa., is engineer in charge. (Lately noted.)

Va., Roanoke.—City proposes to vote December 11 on issuance of \$45,000 of bonds for fire and water department. Address The Mayor.

W. Va., Kingwood.—Company will be organized to construct water-works; will own and operate system for 10 years, after which city may purchase same. Address The Mayor.

W. Va., New Martinsville.—City voted issuance of \$12,000 of bonds for improvements to water-works. Address The Mayor. (Lately noted.)

WOODWORKING PLANTS

Ga., Rome.—Novelties.—Organization of company to manufacture wooden novelties is contemplated; Wilson M. Hardy, secretary Manufacturers and Merchants' Association, can give information.

La., Baton Rouge.—Boxes and Crates.—Standard Box Co., W. M. White, president, will establish addition to plant lately mentioned; two stories; 140x76 feet; metal roof frame; ordinary mill construction; cost of buildings \$12,500; cost of planing mill and box machinery \$36,000; capacity, two cars of boxes and crates daily; J. L. Walker, Baton Rouge, engineer in charge.

La., New Iberia.—Caskets, etc.—Broussard Casket & Manufacturing Co., Ltd., organized to manufacture caskets and packing cases; J. H. Kibbler, manager.

Md., Baltimore.—Baltimore Sash & Door Co., Howard and West Sts., increased capital stock from \$150,000 to \$250,000.

Tenn., Knoxville.—Crates.—Knoxville Basket Crate Co. incorporated with \$50,000 capital stock by C. R. McCormick, F. R. McCormick, W. Prater and others.

Tenn., White Bluff.—Axe Handles.—H. F. Bateman will establish plant for manufacturing axe handles.

Tex., Waco.—Wagon Beds.—M. L. Winans will erect factory for manufacturing wagon beds; to replace present structure.

BURNED

Ala., Andalusia.—Sessions Wholesale Grocery Co.'s grist mill; loss \$10,000.

Ala., Anniston.—Anniston Manufacturing Co.'s warehouse; loss \$20,000.

Ala., Georgiana.—H. T. Babcock & Co.'s turpentine still; loss \$3000.

Ark., Hope.—Henry Robert's gin; loss \$600.

La., Monroe.—Pettis Hotel, owned by A. J. Herring; loss \$10,000.

Md., Baltimore.—Samuel Birkhead's residence and stable at Main street and Belvedere avenue, loss \$30,000; Charles T. Cockey's residence at Main and Garrison avenues, loss \$10,000; William Russell's residence at Main and Postoffice avenues, loss \$10,000, all of West Arlington (a suburb).

Md., Detour.—J. Frank Delaplaine's barn; loss \$4000.

Mo., Fulton.—Westminster College's main buildings; loss \$75,000; T. S. McPheeters, president.

Md., Hagerstown.—Hagerstown Foundry Co.'s plant; loss \$8000.

N. C., Fair Bluff.—Bank of Fair Bluff, store buildings of J. P. Waddell, D. M. Rogers and L. F. Anderson, all owned by Anderson estate.

Okla., Silo.—Heath & Co.'s cotton gin.

S. C., Columbia.—Columbia College, loss \$250,000; Rev. E. O. Watson, president trustee.

S. C., Hampton.—Methodist Church; loss \$3500. Address The Pastor, Methodist Congregation.

S. C., Marlboro.—James Cottingham's cotton gin; loss \$2500.

S. C., Trenton.—Thomas G. Smith's gin-house; loss \$1500.

Tenn., Elizabethton.—Bradley Lumber Co.'s furniture plant and planing mill; loss \$60,000.

Tex., Austin.—Tips.—Foundry & Machine Co.'s plant; loss \$50,000.

Tex., Brownwood.—Jackson Hotel; owner, W. T. Jackson, Greenville, Tex.; loss \$20,000.

Tex., Celeste.—Carver & Neely's round-bale cotton gin; loss \$17,000.

Tex., Celeste.—Carver Company's cotton gin; loss \$7500.

Tex., Dallas.—Jeff Word's building; loss \$12,000.

Tex., Dallas.—Mrs. Mary E. Skelton's residence; loss \$6000.

Tex., El Paso.—Frank Tolson's car barn at Tolson; loss \$14,700.

Tex., Greenville.—J. F. Monday's square-bale cotton gin; loss \$5000.

Tex., Neyland.—Denton & Hale's gin; loss \$6000.

Tex., Whitewright.—Whitewright Cotton Oil Co.'s seedhouse; loss \$14,000.

Va., Charlottesville.—Afterthought Coal Co.'s plant; loss \$5000.

W. Va., Fairmont.—J. F. Thacker's barn; loss \$7000.

W. Va., Wheeling.—Grubb & Koehler's bottling works.

BUILDING NOTES

APARTMENT-HOUSES

Ala., Gadsden.—N. W. Scott, Ensley, Ala., reported to build apartment-house in Gadsden.

Mo., St. Louis.—Gaston Tackacs reported as having purchased site on which to erect building to contain five and six-room apartments.

Mo., St. Louis.—Stewart & Hay Building Co. has had plans prepared by Louis Hermann of St. Louis for apartment-house; to be in three sections, each to consist of six apartments of four rooms and bath, steam heat, combination fixtures, gas ranges, refrigerators, etc.; cost \$100,000.

Tex., Dallas.—Edward C. Connor will erect apartment and store building; two stories; brick; 50x70 feet; cost \$9000; S. C. Skelving is architect and H. M. Bargebaugh contractor, both of Dallas.

Va., Alexandria.—William Cook awarded contract to Julian D. Knight of Alexandria to erect two-story store and apartment-house at Cameron and Patrick streets; plans by W. Leon Clark of Alexandria; building to have steam or hot-water heat; electric and gas lighting; cost \$5000.

BANK AND OFFICE BUILDINGS

Ark., Bald Knob.—Bald Knob State Bank awarded contract to E. C. Bowden, Judsonia, Ark., to erect bank building; pressed brick; tile flooring; metal ceiling.

Ark., Helena.—Jos. L. Solomon's store and office building, contract recently noted awarded to H. L. Stevens Company, Atlanta, Ga., will be five-story reinforced concrete structure; steam heat; electric lighting; electric passenger elevator; cost \$25,000; plans by Joseph & Joseph, Louisville, Ky.

Ga., Atlanta.—Fulton County Bank will erect bank building; W. J. Blalock, chairman committee.

Ky., Williamstown.—Bank of Williamstown awarded contract for erection of bank building; two stories; pressed brick and stone; concrete basement; steam heat; cost \$10,000.

La., New Orleans.—Metropolitan Bank awarded contract to Jefferson Construction Co. of New Orleans to erect bank and office building; seven stories and basement; 106 feet high; 60x150 feet; steel construction; fireproof walls and floors; each of six office floors will contain 20 offices; bank to occupy first floor and part of basement; four electric elevators; street elevations will be of granite, terra-cotta and pressed brick; public lobby will be paved with ceramic tile and ornamented with 16 marble columns with bronze bases; banking counters and grill work of marble and bronze; wire-glass windows; vacuum cleaning system; electric lighting; steam heat; estimated cost, \$200,000; plans by Hiboll, Owen & Goldstein of New Orleans. (Lately noted.)

Mo., St. Louis.—Friedman-Shelby Shoe Co. is having plans prepared by Eames & Young, Wright Bldg., St. Louis, for office and warehouse building to cost \$150,000. (See "Warehouses.")

N. C., Fair Bluff.—Bank of Fair Bluff will erect two-story brick banking and store building to replace structure reported burned; size, 40x50 feet; cost \$3000. (See "Machinery Wanted.")

N. C., Henderson.—People's National Bank has had plans prepared by R. S. Smith, Asheville, N. C., for office building recently men-

tioned; three stories; press-brick structure; marble front; to contain bankroom, two storerooms, offices, etc.; steam heat; elevator; cost \$40,000; contract not let.

Okl., Sapulpa.—Burnette Bros. awarded contract for erection of four-story office building to cost \$100,000.

Va., Portsmouth.—Southern Aid Society awarded contract to N. C. Dad, Richmond, Va., to erect building; two stories; brick; metal roof; cost \$4600; first floor for offices and second for apartments.

Tenn., Ducktown.—United States Bank reported to erect bank building.

Tex., Austin.—American National Bank, Geo. W. Littlefield, president, will soon advertise bids for erection of bank and office building recently mentioned; eight stories and basement; 69x160 feet; fireproof; steel frame; concrete floors; vacuum steam heating; two elevators; hot and cold water throughout building; construction to begin not later than November; cost \$400,000; plans by C. H. Page & Bro., Austin, Tex.

Tex., Cooper.—Farmers' State Bank, J. R. Albright, vice-president, is having plans drawn for bank building recently mentioned; two-story brick structure; 27x75 feet; cost \$5000; bank on first floor, Masonic hall above. (See "Machinery Wanted.")

Tex., Taylor.—D. F. Smith will erect office building.

Tex., Winters.—Thomas Veltch, Anson, Tex., has contract for erection of \$17,000 bank building at Winters; plans by W. N. Merdith, Oklahoma City, Okla.; construction begun.

W. Va., Fairmont.—The Watson Company (J. E. Watson) awarded contract to Fuller Construction Co. of New York to erect proposed office building; 120x90 feet; eight stories above ground and two under ground. (Previously mentioned.)

CHURCHES

Ala., Union Springs.—Episcopal Church awarded contract to C. C. Clark of Union Springs to erect edifice; brick, cement and stone; slate roof; plans by R. Kennon Perry, Auburn, Ala.

Ark., Hot Springs.—Trustees First Presbyterian Church, Dr. Jos. S. Horner, chairman, contemplate bond issue of \$20,000, part of this amount to be used in completing and furnishing new edifice. (See "Machinery Wanted.")

Ark., Leslie.—M. E. Church South had plans prepared by J. N. Montgomery for brick edifice recently mentioned; structure 50x66 feet; three rooms; two galleries; hot-air or hot-water heat; cost \$5000; bids being received; W. T. Martin, pastor. (See "Machinery Wanted.")

Ark., Malvern.—Methodist Church awarded contract to Webster & Banks of Malvern at \$13,779 to erect edifice.

Ark., Newport.—Methodist Congregation will erect edifice. Address The Pastor, Methodist Church.

Ky., Paducah.—First Baptist Congregation will erect edifice. Address The Pastor, First Baptist Church.

Ky., Shelbyville.—Baptist church, Dr. B. B. Bailey, pastor, will rebuild burned edifice; expenditure \$30,000.

La., Estherwood.—Catholic congregation will erect edifice. Address The Pastor, Catholic Church.

La., Franklinton.—Presbyterian Church contemplates erection of edifice; plans indefinite; C. Doremus may be addressed.

La., New Orleans.—St. John's Catholic Church; loss \$200,000. Address The Pastor, St. John's Catholic Congregation.

N. C., Charlotte.—Chalmers Memorial A. R. P. Church, Rev. R. E. Hough, pastor, awarded contract at \$12,000 to R. N. Hunter Construction Co. of Charlotte to erect edifice in Dilworth; 75x150 feet; brick; slate roof; seating capacity 700; plans by Hunter & Gordon of Charlotte. (Lately noted.)

N. C., Shelby.—Methodist Church, Rev. L. D. Thompson, pastor, will erect brick edifice.

S. C., Anderson.—Christian congregation will erect edifice. Address The Pastor, Christian Church.

S. C., Brunson.—Christian Congregation will erect edifice; brick with stone trimmings; metal roof; cost \$5000; plans by Preacher & Holman, Augusta, Ga. Address The Pastor, Christian Church.

S. C., Greenwood.—Lutheran congregation will erect edifice to cost \$3000. Address The Pastor, Lutheran Church.

Tenn., Knoxville.—Broadway Baptist Church will remodel edifice at cost of \$9000; N. A. Slaughter has contract to install steam-heating plant and Wilhoit & Thompson for decorating interior; both of Knoxville.

Tenn., Nashville.—Immanuel Baptist Church, Dr. Rufus W. Weaver, pastor, will erect edifice; auditorium to have seating capacity of 1000; 30 Sunday-school classrooms; roof garden; cost \$40,000; further improvements are planned which will entail expenditure of from \$100,000 to \$125,000.

Tenn., Nashville.—First Evangelical Lutheran Congregation will erect edifice. Address The Pastor, First Evangelical Lutheran Church.

Tex., Bay City.—Baptist Congregation is considering rebuilding of edifice demolished by storm. Address The Pastor, Baptist Church.

Tex., Breckenridge.—Plans and specifications are invited for erection of frame church building to cost not exceeding \$5000. For further information address W. C. Veale, chairman.

Tex., Fort Worth.—Central Methodist Church, Rev. L. A. Webb, pastor, will soon begin erection of proposed edifice; 60x120 feet; pressed brick and stone; seating capacity 1500; cost \$40,000.

Va., Grundy.—Charles E. Bearden, architect, Chamberlain Bldg., Chattanooga, Tenn., completed plans for foundation of edifice to be erected by M. E. Church South, R. E. Williams, secretary; building to be of native stone; slate roof; oak interior finish; metal ceiling; hot-air heating plant; cost \$15,000; owners will receive bids; architect will complete plans for superstructure later. (Mentioned in June.)

Va., Portsmouth.—Lutheran congregation contemplates erecting edifice. Address The Pastor, Lutheran Church.

COURTHOUSES

Ind., Jasper.—Architects Milburn, Helster & Co., Home Life Bldg., Washington, D. C., awarded contract at \$56,200 for new courthouse to Walter F. Stillwell of Lafayette, Ind.; contract calls for building complete, including plumbing, heating, etc.

La., Vernon.—Jackson parish will vote October 26 on erection of courthouse. Address Police Jury.

Tex., Anson.—Jones county will vote October 2 on issuance of \$100,000 of bonds for erection of courthouse. Address County Commissioners.

Tex., Columbus.—Colorado county awarded contract at \$19,575 to N. C. Jensen, Houston, Tex., to repair courthouse, damaged by storm.

Tex., Georgetown.—Williamson county will vote December 14 on issuance of \$100,000 of bonds for erection of courthouse. Address County Commissioners.

DWELLINGS

Ala., Birmingham.—C. D. Pantaze has awarded contract to Evans Construction Co., Birmingham, for erection of dwelling lately mentioned; 10 rooms; 34x50 feet; ordinary construction; furnace heat; electric lights; cost \$6500; plans by Chamberlain & Co., Second Ave. and 20th St., Birmingham.

Ala., Gadsden.—Aaron Mann, Henderson, Ky., will erect 30 dwellings to cost \$25,000.

Ala., Troy.—S. B. Reeves will erect residence.

Ala., Troy.—Miss Lizzie Parker awarded contract to J. F. Morgan, Troy, for erection of residence.

Ala., Troy.—Robert Simmons awarded contract to J. F. Morgan, Troy, for erection of residence.

D. C., Washington.—J. E. Abbott has plans by A. H. Beers, 1333 G St. N. W., Washington, for two residences at 3517 New Hampshire avenue N. W.; two stories; frame and brick; Harry Abbott, Washington, contractor.

D. C., Washington.—W. K. Hill, Takoma Park, D. C., awarded contract to Blakeney E. Barrett, Washington, for erection of 10 dwellings at 639 to 651 Park road, and at 3501 and 3503 Georgia avenue N. W.; two stories; brick and frame; cost \$25,000; plans by Nicholas T. Haller Company, Corcoran Bldg., Washington.

D. C., Washington.—Kennedy Bros., care N. L. Sansbury, 719-721 13th St. N. W., will erect 335 dwellings at New Hampshire and Georgia avenues and Rock Creek Church road. (See "Miscellaneous Enterprises.")

D. C., Georgetown.—L. J. Mangan, 1609 L St. N. W., Washington, D. C., awarded contract to Burgess & Parsons, 627 F St. N. W., Washington, D. C., for five dwellings at 1807 to 1815 34th street; two stories; seven rooms and bath.

D. C., Washington.—Charles E. Lloyd, Hamilton road, Congress Heights, will erect 27 dwellings on Lincoln avenue, East Arlington (suburb); two stories; frame; corner house three stories.

Fla., McIntosh.—W. R. Brown will erect two-story frame residence; 44x60 feet; electric lighting; cost \$5000; plans by W. B. Camp, Jacksonville, Fla.; bids opened October 1.

Fla., Sanford.—Charles R. Walker awarded contract to E. B. Randle, Sanford, for erection of dwelling; two stories; 10 rooms; first story cement blocks; second story asbestos, slate or shingle covering; cost \$5000.

Fla., Tampa.—C. R. Pippin awarded contract to J. M. Knight, Tampa, for remodeling residence; will erect addition, circular corner tower, front and side porch, and will improve interior.

Ga., Ellijay.—Ed. Barclay will erect residence.

Ky., Lexington.—Clarence T. Whitt will erect two-story brick residence.

La., New Orleans.—Nelson Whitney will erect residence to cost \$20,000.

La., Shreveport.—Cyrus S. and Albert Steere awarded contract to E. W. Hilliard, Shreveport, for erection of five dwellings; cost \$17,500.

Md., Baltimore.—Geo. W. E. Brooks, 219 South East Ave., has purchased two sites 50x100 feet each and will erect dwellings at Overlea.

Md., Baltimore.—John T. Simms, 3129 Dillon St., purchased two lots at Elm and Linden avenues, 50x150 feet each, and will erect residences.

Md., Baltimore.—George H. Dryden, 648 Columbia Ave., has plans by Frank L. Riley, 731 West Saratoga St., Baltimore, for residence at Lenox; 2½ stories; slate roof; concrete foundation; hot-water heating; combination fixtures of hardwood and pine; cost \$6000.

Md., Baltimore.—M. Fillmore Carter, 1019 Milton Pl., will erect 28 dwellings on Belmont avenue, Walbrook; Newport style; semi-detached; steam heat; gas and electric lights; hot-water heaters; refrigerators, etc. (See "Miscellaneous Enterprises.")

Md., Baltimore.—John F. Carter, Park Heights Ave., near Glenn Ave., is having plans prepared by Jacob F. Gerwig, 210 East Lexington St., Baltimore, for 13 dwellings on Westwood avenue and Presbury street; 14x46 feet; cost \$20,000.

Md., Baltimore.—Walter Hooper, 115 East Baltimore St., will erect two dwellings on Shirley avenue; two and a half stories; frame; 27x35 feet; slate roof; steam heat; cost \$8000.

Md., Baltimore.—Provident Realty Corporation, 220 St. Paul St., has plans by Henry J. Tinley, 314 North Charles St., Baltimore, for cottage on Elsinor avenue; two and a half stories; frame; 24x38 feet; steam heat; cost \$4000.

Md., Baltimore.—Isaac N. Cooper, 426 Roland Ave., will erect 12 dwellings on Milton avenue; 13x46 feet; tin roofs; furnace heat; cost \$13,000.

Md., Baltimore.—William Strobel, 137 Stockholm St., awarded contract to Charles L. Stockhausen, National Marine Bank Bldg., Baltimore, for erection of residence at 141 Stockholm street; two stories; brick; 33x66 feet; slag roof; cost \$3000; plans by Walter Kraus, Baltimore.

Md., Baltimore.—Brandy Realty Co., 440 A Equitable Bldg., has plans by Henry J. Tinley, 314 North Charles St., Baltimore, for six cottages on Powhatan avenue, recently mentioned; two and a half stories; frame; slate roofs; steam heat; 38x50 feet; cost \$35,000.

Md., Baltimore.—McLean Contracting Co., Maryland Trust Bldg., is having plans prepared by J. Harry Thurman, Baltimore, for 12 dwellings on Fort avenue, Locust Point; two stories; brick; 14x70 feet; pressed-brick fronts; cost \$15,000.

Md., Baltimore.—Frank Novak, 2900 Jefferson St., will erect 13 dwellings; two stories; brick; 15x45 feet; pressed-brick fronts; marble bases; cost \$18,000; plans by J. F. Hirt, 2800 Jefferson St., Baltimore.

Md., Baltimore.—W. S. LeFleur, 1626 North Gilmer St., is having plans prepared by T. W. Pietsch, American Bldg., Baltimore, for dwelling on Walbrook avenue, recently mentioned; two and a half stories; asbestos and slate roof; concrete foundation; 40x50 feet; cost \$10,000; contractors estimating include Fred Decker & Sons, 1309 East Biddle St.; Charles L. Stockhausen, National Marine Bank Bldg.; Edward Pliet, 222 Perry St.; E. G. Turner, 2010 Harlem Ave.; M. C. Davis, 5 Hopkins Pl.; A. Knell, Jr., American Bldg., and John S. Moke, Hoffman Bldg., all of Baltimore.

Md., Catonsville.—Charles Steffey has plans by Clyde N. Friz, 11 East Pleasant St., Baltimore, Md., for residence on Ten Hills; two and a half stories; frame.

Md., Robinson.—Arthur Boehm, 207 St. Paul St., Baltimore, Md., awarded contract to George R. Morris, Equitable Bldg., Baltimore, Md., for erection of dwelling on Severn River near Robinson; colonial style; 50x45 feet; 15 rooms; steam heat; water works.

Miss., Mendenhall.—Baptist Church, Rev. P. J. Williams, pastor, will erect parsonage. Mo., Kansas City.—T. J. Green has plans by James Oliver Hogg, Kansas City, for residence; blood-red brick; top half story covered with stucco; 60x60 feet; two stories and basement; laundry appliances and heating plant in basement; electric lights; cost \$20,000.

Okl., El Reno.—Ed S. Le Van has plans by Architect Vogel, El Reno, for residence; brick veneer up to second story; eight rooms; cost \$6000.

Okl., Guthrie.—J. A. McElhinney has plans by Ben Burdett, Guthrie, for residence recently mentioned; frame; hot-water heat; electric lighting; 54x45 feet; cost \$10,000; will open bids September 20.

Okl., Tulsa.—R. S. Harvey will erect residence; one and a half stories; brick; cost \$4000.

S. C., Hampton.—J. R. Hoover will erect \$8000 residence; plans by Preacher & Holman, Augusta, Ga.; colonial style building; frame; metal roof.

Tenn., Memphis.—J. R. Ellis will erect residence; two stories; frame; eight rooms; cost, exclusive of heating, wiring and plumbing, \$3400.

Tenn., Memphis.—J. B. Lewis awarded contract to R. Cresson, Memphis, for improvements to residence, to cost \$5000.

Tenn., Memphis.—George W. Pease awarded contract to Tom Turpin, Memphis, for erection of residence; two stories; stone veneered; eight rooms; cost \$4800, exclusive of heating, wiring and plumbing.

Tenn., Memphis.—W. E. Nickey awarded contract to W. S. La Grill, Memphis, for erection of residence; two stories; stone and brick veneered; eight rooms; tile roof; cost, exclusive of heating, wiring and plumbing, \$10,337.

Tenn., Murfreesboro.—Frank White has awarded contract to J. E. Dean, Murfreesboro, for erection of dwelling recently mentioned; two and one-half stories; pressed brick; concrete foundation; electric lights; cost \$7500.

Tex., Beaumont.—J. C. Ward has plans by H. C. Mauer & Co., Commercial National Bank Bldg., Beaumont, for residence.

Tex., Galveston.—W. S. Keenan will erect residence.

Tex., Houston.—Mr. Wallis, president Willow Lumber Co., will erect 18 four-room dwellings; contract for part awarded to James & Levins, Houston.

Tex., Lagrange.—J. F. Kainer will erect residence.

Tex., Lagrange.—W. A. Caldwell will erect residence.

Tex., Lagrange.—Leo Frede will erect residence.

Tex., Lagrange.—Fred Wessels will erect residence.

Va., Edgewater.—Seay Bros., Norfolk, Va., are lowest bidders at \$8923 for erection of proposed residence for W. W. Moss.

Va., Norfolk.—Howard & W. W. Shields are receiving bids for erection of brick residence; cost \$15,000; plans by Taylor & Hepburn, Norfolk, on file at Norfolk Builders' Stock Exchange.

Va., Norfolk.—Curtis R. Hudgins has plans by Lee & Diehl, Norfolk, for residence; contractors estimating include George T. Banks, H. Abranson, S. B. Hutchins, M. M. Samon and J. D. Anders, all of Norfolk.

Va., Norfolk.—L. Berkley will erect three dwellings.

W. Va., Martinsburg.—H. L. Alexander has plans by J. W. Woltz, Waynesboro, Pa., for residence; rough-cast brick; nine rooms, bath and pantry; colonial style; 38 feet square; hot-water heat; electric lighting.

W. Va., Martinsburg.—S. P. Hopkins has plans by Woltz & Porter, Waynesboro, Pa., for residence; eight rooms; brick.

GOVERNMENT AND STATE BUILDINGS

Ala., Fort Morgan.—Officers' Quarters.—George Ittner, Atlanta, Ga., has contract to erect four non-commissioned officers' quarters; cost about \$10,000.

Tex., Gonzales.—Postoffice.—L. R. Wright, Dallas, Tex., has contract at \$41,255 to erect United States postoffice; stone and brick; two stories and basement; terra-cotta roof. (Lately noted.)

HOTELS

Ark., Cotton Plant.—L. B. Moore awarded contract to H. F. Doyle, Cotton Plant, for erection of brick hotel recently mentioned; steam heat; electric lighting; cost \$3000.

Fla., Crainlyn.—Ocean Beach Hotel Co. incorporated to erect hotel at Crainlyn on Grassy Key; Dr. J. N. Fogarty, president; Edward H. Crain, vice-president and general manager; William H. Malone, Jr., secretary; Frank J. M. Roberts, treasurer, all of Key West, Fla.

Fla., Jacksonville.—O. P. Woodcock is having plans prepared by W. B. Camp, Jacksonville, for three-story 43x100-foot hotel; steam heat; electric and gas lighting; cost \$25,000; mill construction; bids opened October 1.

N. C., Cleveland Spring (not a P. O.).—James L. Webb, Shelby, N. C., and J. A. Darwin, Atlanta, Ga., are promoting erection of \$100,000 hotel at Cleveland Spring.

N. C., Newcastle.—Craig Healing Springs Co., G. W. Layman, president, will expend about \$15,000 in erection of hotel, installation of water system and other improvements.

N. C., Weaverville.—J. E. Coburn, Bryson City, N. C., and others will erect hotel recently noted; plans not settled.

Okl., Oklahoma City.—F. B. Ziegler will erect family hotel; four stories and basement; steam heat; elevators; cost \$110,000.

Tenn., Knoxville.—Knoxville Leasing Co., Wm. G. Brownlow, secretary, awarded contract to Thomas & Turner, Knoxville, for erection of hotel recently noted; four-story building; 140x138 feet; ordinary construction; steam heat; electric lighting; electric (magnet control) elevator; cost \$85,000; plans by Okel & Cooper, Montgomery, Ala.

Tenn., Nashville.—Thomas S. Marr of Nashville has prepared plans for proposed improvements to Duncan Hotel approximating \$30,000; betterments include construction of 10 new rooms to occupy space on second floor now used as dining hall; new dining hall to have 3000 square feet of space and walls of marble eight feet up from floor; marble steps to lead from lobby to lavatory, which will be in basement and be built largely of marble and tile; stationary washstand in every room; entire building to be rewired for electric lights; contract for improvements will soon be awarded.

Tex., Marlin.—B. C. Curry and J. S. Holler will erect hotel; three stories; concrete blocks; 35 bedrooms; cost \$30,000.

MISCELLANEOUS STRUCTURES

Ala., Decatur.—Business.—W. W. Garnett will erect brick business block.

Ala., Pratt City.—Business.—E. W. Young will, it is reported, erect brick business building.

Ala., Pratt City.—Store.—W. D. Young awarded contract to J. T. Culpepper, Pratt City, for erection of store building; two stories; brick; 80x40 feet; gray brick with glass front and show windows.

Ala., West Blockton.—Lodge.—Blockton Lodge, No. 710, B. P. O. E., will erect lodge building; site 50x100 feet; George W. Randall, H. D. Cullen and John F. Golsen, committee.

Ark., Caddo Gap.—Business.—G. Cox and L. L. Beavers, Mt. Ida, Ark., and W. D. Jones, Caddo Gap, will erect business building; brick; 50x80 feet.

Ark., Little Rock.—Orphanage.—Methodist Orphanage, Geo. Thornburgh, president, had plans prepared by James M. Whitehead, Little Rock, for \$30,000 orphanage; construction recently noted commenced; brick building; 120x120 feet; two stories; 50 rooms; hot-water heat; gas and electric lighting; W. R. Casey, Little Rock, contractor. (See "Machinery Wanted.")

Ark., Little Rock.—Business.—Mrs. T. D. Crawford and Mrs. E. A. Bright will erect business building; frontage 125 feet; two stories; cost \$30,000.

Fla., Jacksonville.—Clubhouse.—Florida Country Club awarded contract to N. L. Snelson, Jacksonville, for erection of proposed clubhouse at Ortega; main building and two wings; semi-colonial; shingled exterior; verandas; dormer windows; heating apparatus in basement; cost \$17,000; plans by Mellen Clark Greely, Jacksonville.

Fla., Jacksonville.—Stores.—Isidor Grunthal has plans by Waterman & Co. for improvements to Grunthal Building, recently mentioned; ordinary construction; brick and iron; electricity and gas from city plant; cost of improvements, \$4000; Waterman & Co., with Mr. Pool, contractors. (See "Machinery Wanted.")

Fla., Pensacola.—Jail.—Escambia County Commissioners are preparing to erect county jail to cost \$75,000.

Fla., Sarasota.—Stores.—Geo. W. Blackburn has awarded contract to J. S. Mans, Sarasota, for erection of structure to contain stores, hall and offices, recently mentioned; 50x80 feet; two stories; cement hollow blocks; cement walls; tin roof; electric lights; one hand elevator, 12-foot hoist; cost \$4500. (See "Machinery Wanted.")

Fla., Tampa.—Stores and Theater.—E. M. Greeson will build proposed three-story brick block at Tampa and Jackson streets; size, 70x105 feet; four stores on lower floor; theater auditorium, with seating capacity of 1200, to occupy second and third floors.

Fla., Tampa.—Business Building.—V. Greco will erect \$15,000 brick business block on Seventh avenue; F. J. Kennard, Tampa, architect.

Fla., Tampa.—Business Block.—Robt. Mugge reported to contemplate erection of six or eight-story block.

Ga., Atlanta.—Almshouses.—Fulton county awarded contract at \$64,344 to Nicholas Ittner, Atlanta, for erection of almshouses previously mentioned; brick; negro department one story; 20 rooms; white department two stories, with two one-story wings; more than 40 rooms; elevator; steam heat; plans by Morgan & Dillon, Atlanta.

Ga., Cuthbert.—Repository.—C. L. Tumlin will erect brick carriage and buggy repository.

Ga., Cuthbert.—Store.—Cuthbert Wholesale Grocery Co. will erect brick store building.

Ga., Ellijay.—Lodge and Business.—J. O. Hipp & Co. and Masonic Lodge will erect lodge and business building; two stories; brick; to replace burned structure.

Ga., Ellijay.—Business.—J. Gordon Cole will erect business building; two stories; glass front.

Ga., Hawkinsville.—J. P. Brown, Atlanta, Ga., reported to erect \$10,000 business building in Hawkinsville.

Ga., Lexington.—Business.—J. R. Appling & Co. will erect one-story brick business building.

Ky., Shelbyville.—Store.—Mrs. Virginia Campbell will erect store building.

La., Houma.—Business.—Leon Heyman will erect brick business building.

La., Welsh.—Auditorium.—L. E. Robinson, chairman building committee, has awarded contract to M. See, Welsh, for erection of auditorium, lately mentioned; 50x80 feet, with gallery; ordinary construction; stoves; cost \$8000; plans by J. E. Carter, Lake Charles, La. (See "Machinery Wanted.")

Md., Baltimore.—Eutaw Street Methodist Episcopal Church having plans prepared by King & Barnes, Eutaw and Mulberry Sts., Baltimore, for two store buildings on Eutaw street, between Franklin and Mulberry streets; four stories and one story; will also improve front of church; cost of improvements \$18,000.

Md., Lonaconing.—Armory and Hall.—McKinley Company No. 3, Uniformed Rank Knights of Pythias, will receive bids until September 25 for erection of two-story armory and hall; concrete foundation; plans and specifications on file at office of Alvin C. Thompson, chairman building committee.

Miss., Forest Hill.—Lodge.—Woodmen of the World, Forest Hill Camp No. 30, are planning to erect lodge building; J. W. Henderson, D. R. Johnston, W. Calhoun and others, building committee.

Mo., Kansas City.—Business.—Louis C. Desart will erect two business buildings; one five stories, reinforced concrete frontage 25 feet; cost \$30,000; the other three stories, 125x25 feet; cost \$20,000.

N. C., Durham.—Business.—B. L. Duke is having plans prepared by H. C. Linthicum, Durham, for proposed business block; four stories; steel construction; two electric elevators; cost \$70,000.

Okl., Durant.—Business.—J. R. Alford will erect business building; two stories; brick; cost \$4500.

Okl., Oklahoma City.—Business.—John Elsmann & Sons have plans by Van Meter & Schmitt, Oklahoma City, for business building; six stories and basement; reinforced concrete; fireproof; site 50x140 feet; cost \$75,000.

Okl., Tulsa.—Store.—Hugenin & Swearingen (not Roscoe Hugenin), Tulsa, prepared plans for Mayo Bros.' building recently mentioned; five stories; 50x140 feet; steel, with stone facings; plate-glass front; estimated cost \$80,000.

S. C., Greenwood.—Hospital.—Hospital Association has purchased site and will erect hospital building; F. S. Evans, E. R. Goodwyn and J. S. Bailey, committee.

S. C., Columbia.—Sanitarium.—F. L. Sandel of Brookland and Columbia will erect \$30,000 sanitarium.

S. C., Hartsville.—Stores.—J. L. Coker & Co. has awarded contract to Jamison & Morris, Hartsville, for erection of store lately mentioned; one story and gallery; brick; 226x150 feet; ordinary fireproof construction; electric lights; hand elevator; sprinkler system; cost \$60,000. (See "Machinery Wanted.")

Tenn., Columbia.—Orphanage.—Christian Church, Rev. W. T. Roaz, pastor, will establish orphanage.

Tenn., Knoxville.—L. D. Tyson awarded contract to L. A. Galyon, Knoxville, for erection of business building; one story, divided into seven stores; electric and gas lighting; cost \$5000; plans by Baumann Bros., Knoxville.

Tenn., Nashville.—Association.—Young Woman's Christian Association awarded contract for construction of building recently mentioned: For concrete construction, steel construction and rubble masonry, to Foster Creighton-Gould Company, Nashville; for carpentry work, to George Moore & Sons, Nashville; for sheet-metal work, to Phillips & Butteroff, Nashville; for brick work, to Bush Building Co., Nashville, and for cut-stone work, to Foster-Herbert Cut Stone Co., Nashville; contracts for ornamental-iron, fireproof and tile work not yet awarded.

Tenn., Nashville.—Store.—B. F. Wilson will erect four-story store building.

Tenn., Nashville.—Store.—J. Lefkowitz will expend \$3500 for rebuilding store.

Tenn., Ridgedale.—Mercantile.—Mrs. Mary W. Dodds, 2900 East Main St., is having plans prepared by Huntington & Sears, News Bldg., Chattanooga, Tenn., for mercantile building at East Main street and Dodds avenue; two stories; brick; composition roof; about 45x55 feet; cost \$8000 to \$10,000; four stores in first story; offices and hall in second story. (Recently noted.)

Tenn., Rogersville.—Store.—E. S. Clifton will erect two concrete buildings; one two stories and eight-foot basement; frontage 22 feet; cost \$3000.

Tex., Corpus Christi.—Clubhouse.—Board of governors of Corpus Christi Golf and Country Club awarded contract at \$4200 to J. W. Smith, Corpus Christi, for erection of proposed clubhouse; 60x80 feet.

Tex., Dallas.—Business.—Frank O. Witchell will erect business building; pressed-brick front; cost \$8000.

Tex., Port Arthur.—Store and Office.—Laughlin & Barrier are having plans prepared by H. C. Mauer & Co., Houston, Tex., for proposed \$25,000 store and office building.

Tex., Sutherland Springs.—Sanitarium.—Southwest Texas Baptist Workers, San Antonio, Tex., are arranging for erection of proposed sanitarium; three stories; brick; fireproof; cost \$200,000.

Tex., Victoria.—Business.—T. D. Wood awarded contract to Bailey Mills Company, Victoria, for erection of business building; three stories; brick; cost \$25,430, exclusive of plumbing, wiring and elevator.

Tex., Yoakum.—Business.—Ed. Shampaigne will erect business building to replace burned structure; 50x60 feet; brick.

Tex., Yoakum.—Lodge.—Woodmen of the World, J. E. Lander, president, will receive bids until September 20 for erection of \$18,000 brick building; certified check for \$1000; plans and specifications on file at Yoakum State Bank.

Va., Norfolk.—Business.—Mrs. E. L. Barlow awarded contract to Edward Overman, Norfolk, for erection of business building; two stories; frame; slate roof; cost \$850.

Va., Pearisburg.—Business Block.—Bernard Mason has plans by T. T. Carter, Bluefield, W. Va., for block of stores and offices; three stories; brick and stone; cost \$15,000.

Va., Richmond.—Hospital.—Archer & Davis, Richmond, at \$10,200, are lowest bidders for erection of proposed wing to William Byrd Hospital; plans by A. F. Hunt, Richmond.

W. Va., Martinsburg.—Hospital.—City Hospital, G. W. McKown, president, will erect annex to hospital; concrete blocks; three stories; site 20x70 feet.

MUNICIPAL BUILDINGS

Fla., Ocala.—Market.—City will soon award contract for remodeling market at cost of \$5000; plans by McIver & McKay, Ocala.

Mo., St. Louis.—Poorhouse.—Board of Public Improvements awarded contract at \$32,998 to McCully Construction Co. of St. Louis for fireproofing center wing of poorhouse.

N. C., Wilmington.—Fire Station.—City is considering erection of fire station; rough draft of plans provides for two-story brick building 72x166 feet. Address The Mayor.

Tex., San Angelo.—Fire Station and City Hall.—City will vote October 12 on issuance

of \$15,000 of bonds to erect fire station and City Hall. Address The Mayor.

Tex., Weimar.—Hall.—City is considering erection of fireman's hall; two stories; brick. Address The Mayor.

Va., Roanoke.—City Hall.—City proposes to vote December 11 on issuance of \$300,000 for City Hall and site. Address The Mayor.

RAILWAY STATIONS

Ky., Carlisle.—Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, will remodel passenger station.

La., Bossier.—Vicksburg, Shreveport & Pacific Railway (Queen & Crescent Route), A. A. Woods, resident engineer, Vicksburg, Miss., will erect joint passenger and freight depot.

Miss., New Albany.—St. Louis & San Francisco Railroad, M. C. Byers, chief engineer, St. Louis, Mo., and Mobile, Jackson & Kansas City Railroad, L. W. Duffee, resident engineer, New Albany, have reached agreement upon apportionment of cost of proposed union station to be erected at New Albany.

Okl., Tulsa.—St. Louis & San Francisco Railroad, M. C. Byers, chief engineer, St. Louis, Mo., contemplates remodeling depot at cost of \$5000; contract to be let.

Tenn., Cleveland.—Southern Railway, W. H. Wells, chief engineer construction, Washington, D. C., reported to build passenger station in Cleveland.

Tenn., Louisville.—Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, Ky., will erect depot at Louisville.

Tenn., Memphis.—Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, Ky., will, it is reported, expend \$2,500,000 in erection of passenger terminals in Memphis; station is to be used jointly by Louisville & Nashville, Southern, Nashville, Chattanooga & St. Louis, St. Louis, Iron Mountain & Southern, and St. Louis Southwestern railroads. (Lately mentioned.)

Tex., Corsicana.—P. F. Munger, Teague, Tex., has contract to remodel union depot; cost \$15,000.

Tex., Dallas.—Automobile Annex.—E. J. Cortines, show manager, and M. A. Sacksteder, president Automobile Dealers' Association, awarded contract to C. C. Converse, Dallas, for erection of automobile annex to City Park Armory; 150x25 feet.

Tex., Houston.—Houston Belt & Terminal Co., F. G. Pettibone, president, Galveston, Tex., awarded contract at about \$600,000 to American Construction Co. of Houston to erect passenger terminal station; steel construction; 250x130 feet; floor and wall coating of marble; electric elevator; electric lighting; electric fans; telephone service; train sheds will be 2300 linear feet long, with steel canopy and the roofing; platforms under sheds will be of reinforced concrete; depot, sheds and other necessary structures are estimated to cost \$1,000,000; plans by Warren & Wetmore of New York. (Further facts lately stated.)

SCHOOLS

Ala., Pratt City.—Bids will be received by Henry Donaldson, secretary Board of Education, until September 20 for erection of school recently mentioned; plans and specifications on file at office of D. O. Whildin, architect, 711-714 Title Guarantee Bldg., Birmingham, Ala.; J. E. Seay, chairman.

D. C., Washington.—Commissioners District of Columbia will receive bids until September 20 for constructing 12-room school at L and 12th streets N. W.; forms of proposals, plans and specifications may be obtained from chief clerk engineer department, Room 427 District Building; Henry B. F. Macfarland, Henry L. West and William V. Judson, commissioners. (Previously mentioned.)

Fla., Tallahassee.—State College for Women has plans by Edwards & Walters, 631 Candler Bldg., Atlanta, Ga., for administration building; Gothic-Tudor style; will contain auditorium with seating capacity of 1000, study hall, number of music rooms, 25 class and lecture rooms and several laboratories; cost \$80,000.

Ga., Cordele.—City will vote October 7 on \$15,000 of bonds for school improvements; J. B. Ryals, Mayor.

Ga., Lavonia.—City has voted \$5000 of bonds for school improvements. Address The Mayor. (Recently mentioned.)

La., Baldwin.—Organization formed with L. Forsythe, Jr., chairman executive committee, to promote erection of \$4500 school.

La., Elton.—New Castle College, Ltd., incorporated with \$10,000 capital stock; Daniel Hayes, president-secretary; E. L. Bolles, vice-president; H. Walton, treasurer; will erect college buildings.

Md., Berwyn.—Prince George's County

Commissioners awarded contract to George W. Brown, Washington, D. C., for erection of two-story-and-basement brick school.

Miss., Gulfport.—J. J. Dawsey will open bids about October 1 for 20-room \$5000 dormitory.

Okla., Ada.—State Board of Public Affairs awarded contract at \$94,700 to Texas Building Co., Fort Worth, Tex., for erection of proposed main building at State Normal School, recently mentioned; plans by Chas. Sudhoelter & Co., Muskogee, Okla.

Okla., Boswell.—City awarded contract to Frye & Sparger, Durant, Okla., for erection of high school recently mentioned; brick, with stone trimmings; cost \$20,000; plans by Jewell Hicks & Co., Durant, Okla.

Okla., Sneed.—City awarded contract to W. S. McGowan, Sneed, for erection of proposed school; cost \$8000.

S. C., Columbia.—Columbia College will rebuild structures reported burned; loss \$250,000; Rev. E. O. Watson, president trustees.

Tenn., Henning.—City awarded contract at about \$12,000 to Rev. R. E. Downing, Henning, for erection of school previously mentioned.

Tenn., Maryville.—City has voted \$30,000 of bonds for erection of schools in East and West Maryville. Address The Mayor.

Tex., Alpine.—City awarded contract to Borglund, McDermott & Co., Midland, Tex., for erection of school recently mentioned; cost \$30,000; plans by A. O. Watson, Austin, Tex.

Tex., Angleton.—City has voted \$17,000 of bonds to erect school. Address The Mayor. (Recently mentioned.)

Tex., Fort Worth.—City awarded contract at \$36,000 to Buchanan & Gilder, Fort Worth, for erection of proposed Glenwood school.

Tex., Laredo.—Thomas Velth, Anson, Tex., has contract for erection of \$7500 brick school at Laredo; plans by Elmer Welters, Stamford, Tex.; construction begun.

Tex., Denton.—Standard Business School Corporation, T. W. Lewis, president, had plans prepared by L. B. Weinman, Fort Worth, Tex., for school building recently mentioned; four-story structure; 70x100 feet; pressed brick, steel and stone; ordinary construction; steam heat; electric lighting; printing machinery, vaults and furniture to be installed; cost of completed building \$75,000; bids to be opened about January 1.

Tex., Waxahachie.—City will vote October 12 on \$3000 bond issue for school improvements. Address The Mayor.

Va., Fredericksburg.—State Normal School for Women has not decided on date of letting contract for erection of structures recently mentioned; will erect dormitory to accommodate 200 and large administration building; semi-fireproof; plans for heating, lighting, etc., not settled; P. T. White, Richmond, chairman building committee; plans by C. M. Robinson and C. Bryant of Richmond and P. H. Stern.

Va., Roanoke.—City proposes to vote December 11 on \$100,000 bond issue for school improvements. Address The Mayor.

THEATERS

Ala., Mobile.—J. T. Keener and Martin Lindsey will erect theater; 68x124 feet; brick; fireproof; seating capacity of auditorium about 1000.

Ark., Little Rock.—Isaac and Dave Kemper of Little Rock; L. R. Optenheimer, San Antonio, Tex., and A. Wise of New York will erect theater; three stories; 75x140 feet; brick; seating capacity 1500 to 1650; balcony and gallery over main floor; stage 40x75 feet; cost \$100,000.

Fla., Sanford.—W. G. Hammond, contractor of Sanford, has begun erection of proposed moving-picture theater for T. J. Miller; structure will be 45x50 feet, with inside elevation of 19 feet; cement blocks.

Fla., Tampa.—E. M. Greeson will erect three-story building, to contain theater with 1200 seating capacity; theater to be leased by Peruch-Gypzene Stock Co.; recently noted. (See "Miscellaneous Structures.")

Md., Baltimore.—A. H. Pitts, 534 North Calvert St., awarded contract to Walker T. Michael, 1524 North Fremont Ave., and John C. Clark for erection of moving-picture theater recently mentioned; semi-fireproof; electric lighting. (See "Machinery Wanted.")

Md., Baltimore.—Charles W. Demme, 1000 Warner St., will erect moving-picture theater at 1713 and 1715 Harford avenue; 33x100 feet; slag roof; cost \$5000; plans by William H. Emory, Jr., 415 Professional Bldg.; contract awarded to George Warmuth of Warmuth & Webb, 511 West Franklin St.

Md., Baltimore.—Alfred H. Pitts, 1631 East Madison St., and Cornelius H. Jones, 1303

North Stockton St., will remodel buildings at 1115 and 1117 West Saratoga street as moving-picture theater; will erect addition 19x30 feet; cost \$1500; contract awarded Walter T. Michael, 1524 North Fremont Ave., Baltimore.

Tex., San Antonio.—Louis Oge will remodel and enlarge Star Theater; addition with frontage of 60 feet; seating capacity to be increased from 325 to 700; cost \$10,000.

Va., Norfolk.—Bishop, Summers & Massie, Newport News, Va., contractors for erection of proposed concrete warehouse for E. L. Simpson, have transferred the contract to Myers-Turpin Construction Co. of Norfolk to complete work; cost of structure \$30,000; Newport News company completed work to amount of \$2500.

WAREHOUSES

Ala., Altoona.—Altoona Warehouse Co. incorporated; J. D. Brice, president; J. R. Greer, secretary and general manager.

Ga., Lexington.—Crawford Oil Mill will erect warehouse.

Ky., Lexington.—Shelburne Tobacco Warehouse Co. will enlarge warehouse.

Ky., Paducah.—John M. Hodge, Henderson, Ky., awarded contract to George W. Katterjohn of Paducah to erect tobacco warehouse and stemmery; brick; two stories; 100x240 feet; cost \$22,000.

Mo., Kansas City.—Electric Traction Construction Co., Commerce Bldg., contemplates erection of \$30,000 warehouse. (See "Electric Light and Power Plants.")

Mo., St. Louis.—Friedman-Shelby Shoe Co. is having plans prepared by Eames & Young, Wright Bldg., St. Louis, for warehouse and office building; 9 or 10 stories; 65x133 feet; reinforced concrete; exterior of first two stories of stone and upper stories of pressed brick; 90,000 feet of floor space; elevators, spiral chutes and automatic sprinkler system; cost \$150,000.

S. C., Chester.—Chester County Farmers' Warehouse Co., recently reported having increased capital stock and contemplating erection of addition to cotton warehouse, will open bids about September 25 for addition; 80x75 feet; brick and frame; sprinkler system of water-works for fire protection; cost \$2500. (See "Machinery Wanted.")

Tenn., Nashville.—Nashville Spoke & Handle Manufacturing Co. is considering erection of five-story concrete warehouse.

Tex., Temple.—Gulf, Colorado & Santa Fe Railway, C. F. W. Felt, chief engineer, Galveston, Tex., distributed plans among contractors for erection of storehouse; 400 feet long, 60 feet wide; brick and steel; fireproof; cost \$40,000.

Va., Norfolk.—C. M. Bayne & Co. are having plans prepared by Arnold Eberhart of Norfolk for warehouse to cost \$7500.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Gadsden.—An officer of the Chattanooga Southern Railway writes: "We expect to make no extensions at this time." This denies a recent press report.

Ala., Cullman.—The Cullman Coke & Coal Co. has been organized with \$2,000,000 capital stock, and among other work proposes to build a railroad from Cullman to the Parker Coal Mines and Arkadelphia. The incorporators are George H. Parker and Joseph Spitznagel of Cullman, Ala., and D. W. Ten Brock of St. Louis, Mo. A Holland syndicate is said to be also interested.

Ark., Bentonville.—Bids will not be requested for construction of the Northwest Arkansas Electric Interurban Railway until bonds have been sold, it is reported. Route is from Bentonville to Gentry, Springdale, Rogers, and back to Bentonville, thence via Pea Ridge and Neosho, Mo., to Joplin, Mo., 103 miles, with a number of branches. The main line will be operated by electricity. Winlock Morris is president and P. H. Sackett chief engineer, both at Bentonville, Ark.

Ark., Booneville.—Concerning the report that the Chicago, Rock Island & Pacific Railway proposes to spend \$150,000 for improvements in the Booneville yards, an official letter says that something is contemplated, but nothing authorized at present.

Ark., Nashville.—Preliminary surveys have been made by the Memphis, Paris & Gulf Railway Co., according to a press report, for an extension from Murfreesboro via Amity to Hot Springs, 57 miles; also for an extension from Ashdown, Ark., to Clarksville and Greenville, Tex., 130 miles. It is ultimately proposed to build northeast to Little Rock and from there eastward to Memphis, Tenn. W. W. Brown is president at Nashville, Ark.

Ark., Nashville.—Plans are reported under way to build a railroad from the Pike county diamond fields to Antioch, Ark., on the Gordon & Fort Smith Railroad, using the partially graded line of a former logging railroad out of Antioch for practically all of the distance. Motor cars are to be used. A spur may also be constructed.

Fla., Brooksville.—An official letter confirms the report that the Tampa Northern Railway Co. is locating an extension from Brooksville to Dunnellon, Fla., about 40 miles. Alfred C. Olney is chief engineer at Tampa, Fla.

Ga., Abbeville.—The Abbeville & North-Western Railway, according to a report, has filed a mortgage to secure \$300,000 of bonds for its proposed line from Abbeville to Fort Valley, Ga., via Pineview and Unadilla, 58 miles, with branch from Emerich to Montezuma, Ga., 17 miles. J. L. Bankston of Abbeville, Ga., is president.

Ga., Sylvester.—Control of the Gulf Line Railroad from Hawkinsville to Bridgeboro, Ga., 78 miles, is reported sold by G. F. Alford to a New York and Atlanta syndicate, which plans extensive improvements. C. H. Reynolds, secretary and treasurer, at Sylvester, Ga., may be able to give information.

Ky., Hopkinsville.—The Tennessee Central Railroad Co., says an official letter, is surveying between Hopkinsville and the Ohio River at Paducah, Ky., via Cadiz, Rockcastle and Birmingham, 70 miles. Bridges will be required over the Cumberland and Tennessee rivers. Survey is preliminary. L. F. Lonnbladh is chief engineer at 513 Stahlman Building, Nashville, Tenn.

Ky., Louisville.—A dispatch from Philadelphia says that Samuel M. Clement, Jr., a lawyer, announces the charter of the Kentucky Rapid Transit Co. with \$10,000,000 capital at Dover, Del., to absorb traction companies in Kentucky, besides electric-light and gas plants. It is to operate at Louisville, Lexington and Franklin. The company is to organize September 28. The incorporators named are F. R. Donahue, A. J. Shermer and H. W. Davis of Philadelphia.

Ky., Winchester.—R. W. Day of Scranton, Pa., and F. L. Fuller of New York, with R. H. Rees and Wade H. Lall of Cynthiana, Ky.; B. R. Jouett and C. H. Bowen (president) of the Winchester Commercial Club, and M. T. McEldowney have made an inspection of the route for the proposed traction line from Winchester via North Middletown to Sharpsburg, Ky.

La., Alexandria.—Charter for the Alexandria & Western Railway is being prepared by White, Thornton & Holloman, attorneys, of this city. Line is to run through the Bayou Rapides district and tap the Rupp timber lands 25 miles west of Alexandria, which have been secured by the National Lumber & Creosoting Co. It will finally reach the Sabine River and Texas.

La., Lafayette.—M. Billaud, Jr., and associates have been granted a franchise to build a standard-gauge railroad three miles long from Landry Switch to the Dennis-Long Plantation on Vermillion River. Survey made and right of way obtained. The line will be built next spring.

La., New Iberia.—Franchise has been accepted by H. A. Mentz of New Orleans for an interurban electric railway from New Iberia to Jeanerette, La.

La., New Iberia.—The Iberia, St. Mary & Eastern Railroad Co., capital \$2,000,000, has been chartered to build from New Iberia to Franklin, Paterson and Morgan City, La. The New Iberia, St. Martin & Northern Railroad is said to be back of it. F. M. Welch of New Orleans is president of the latter, and R. L. Lockwood of St. Louis, chief engineer.

La., New Orleans.—J. W. T. Stephens, chief engineer of the New Orleans & Seashore Railway Co., is reported as saying that construction of its proposed electric line from New Orleans to Grand Isle, La., about 125 miles, will begin within 60 days. Contract has been let to Black & Laird. James W. Porch of New Orleans is president of the railroad company.

La., Vacherie.—A railroad 10 miles long has been built from Vacherie and proposes to build a five-mile extension. Those interested are R. Waguespack, W. J. Waguespack, Leonard Waguespack and S. Haydel.

Md., Perryville.—An officer of the Pennsylvania Railroad denies the press report that the company contemplates building a second track from Perryville, Md., to Columbia, Pa.

Miss., Meridian.—The Louisville & Nashville Railroad, it is reported, contemplates extending from Linden, Ala., to Meridian, 75 miles. W. H. Courtenay is chief engineer at Louisville, Ky. Another report says the connection will be made from Myrtlewood, Ala., 45 miles.

Miss., Vicksburg.—James M. Searles, civil engineer, would like to hear from parties with capital concerning a proposed electric railway out of Vicksburg from 4 to 25 miles long.

Mo., Kansas City.—The public has approved the union passenger station franchise by practically a unanimous vote, and H. L. Harmon, president of the Kansas City Terminal Railway Co., says that construction will begin within 30 days, plans for the preliminary work having been completed.

Mo., Kansas City.—According to a report quoting an officer, the Kansas City, Harlem & St. Joseph Railroad Co., recently chartered, proposes to build an electric line from Kansas City northward to Dearborn and St. Joseph, with a branch from St. Joseph to Tiffany Springs, altogether 53 miles. Connection will be made at St. Joseph with the Union Terminal Railway. Edward J. Ward is president and chief engineer at 7 South Jefferson St., Chicago, Ill.

Mo., St. Louis.—The press report that the Vandallia Railroad (Pennsylvania system) would build terminals at Main and O'Fallon streets is officially denied. The report originated because the company had decided to reopen an old freight-house at that location.

Mo., St. Louis.—Franchise is reported granted to James D. Houseman for an electric railway from Jefferson Barracks to Spanish Lake; also to Manchester, Webster Groves, Clayton, University City, Wellston, Ferguson and Florissant, besides branch lines to Fenton and other points.

Mo., St. Louis.—President A. H. Joline in his annual report announces that the Missouri, Kansas & Texas Railway will proceed through its terminal company to construct immediately on its 200 acres of land in North St. Louis the tracks and buildings necessary for freight yards and terminals. A site for freight station and warehouses has also been acquired extending along Broadway four blocks between Florida and Brooklyn streets. The total cost of the whole project will be about \$4,000,000. S. B. Fisher is chief engineer of the company at St. Louis.

N. C., Navassa.—The Wilmington, Brunswick & Southern Railway Co. will, it is reported, complete its line from Navassa to Town Creek, 11 miles, by December 1, and will then build from Town Creek to Southport, 19 miles. About six miles of track have been laid out of Navassa. Z. W. Whitehead of Wilmington, N. C., is president.

N. C., Shelby.—Reported that the Carolina, Clinchfield & Ohio Railway Co. contemplates building an electric line from Cleveland Springs to Shelby, N. C. M. J. Caples is vice-president and general manager at Johnson City, Tenn.

Okla., Enid.—An officer of the Enid & Central Oklahoma Traction Co. is reported as saying it is proposed to begin work about October 1 on the proposed line from Enid to El Reno, Okla., about 65 miles, via Waukomis, Blson, Hennessey, Okarchee, Dover, Kingfisher and Darlington, Okla. W. S. Whittinghill is president and H. S. Moreland chief engineer, both at Enid.

Okla., Mutual.—E. C. Gordon of Atlanta, Ga., is reported working on a plan to build a railroad connecting Mutual, Clinton, Woodward, Gage and other towns in the western part of Oklahoma.

Okla., Oklahoma City.—The Oklahoma City Land & Development Co. proposes to finance an interurban line from Oklahoma City to Shawnee, Okla., and grading has begun. Alfred Hare of Shawnee is to be general manager of the construction company, and other stockholders are W. F. Harn and J. F. Winans of Oklahoma City and Homer S. Hurst of Holdenville.

S. C., Hopkins.—Jesse T. Gantt of Hopkins is reported as saying that the Santee River Cypress Lumber Co. proposes to build a railroad about 30 miles long toward Columbia, taking a route through the swamp, and that Ed Fralick is in charge of the work. Line will also reach Camden, S. C.

Tenn., Clifton.—The St. Louis & Birmingham Railroad Co. has been chartered to build a railroad from Clifton southeast to a point on the Alabama boundary about two miles from Cypress Inn, with a branch about four miles long to Waynesboro, Tenn.; capital \$105,000. Incorporators are G. H. Johnson of Wayne county, Tennessee; N. C. Etting, W. F. McFarland, James L. Brock and T. W. Crow of Florence, Ala.

Tenn., Gallatin.—C. H. Fidler is reported associated with Pittsburg capitalists to build an interurban railway from Gallatin to Beckwith, Tenn., about 12 miles, connecting there with the Tennessee Central Railway.

Tenn., Gallatin.—C. H. Fidler writes confirming the report that he is promoting a

railway from Gallatin to Beckwith, on the Tennessee Central Railroad, 12 miles, and the plan is being considered by Pittsburg parties. Preliminary survey has been made.

Tenn., Beaumont.—J. F. Weed, receiver of the Beaumont Traction Co., has been authorized to issue receiver's certificates for contemplated improvements, including new rails and second track.

Tenn., Knoxville.—Charles Dawes, who proposes to build an electric interurban railroad from Knoxville via Bearden and Concord to Kingston, Tenn., is reported as saying that rights of way have been secured, and the prospect for construction is excellent.

Tenn., Memphis.—George E. Bushnell of Indianapolis will, it is stated, establish offices in Memphis about October 1 to begin work for the proposed interurban railway from Memphis to Nashville via either Jackson or Brownsville, Tenn. He represents capitalists in the North and East. Gasoline motor cars may be used.

Tex., Bartlett.—Construction is reported begun for the Bartlett-Florence Railway, contractor being Joseph Bowers.

Tex., Dallas.—The Rock Island system, the Frisco system and the Trinity & Brazos Valley Railway will, it is reported, begin construction shortly of freight terminals and yards, including freighthouses, the total cost of which will be about \$600,000. J. B. Berry is chief engineer of the Rock Island at Chicago, Ill.

Tex., Falfurrias.—The Miller Bros. Company of Falfurrias contemplates building an interurban motor line from a point near Realitos, on the Texas-Christi Railway, via Falfurrias to Corpus Christi, Tex., and desires to get in touch with railroad contractors and bond houses. E. C. Lasater is associated.

Tex., Fort Worth.—L. C. Cole writes that the Fort Worth, Mineral Wells & Northwestern Railway Co. proposes to build at present a line from Fort Worth to Mineral Wells, about 60 miles. Surveys are being made.

Tex., Georgetown.—The International & Great Northern Railroad, says a dispatch, contemplates extending from Georgetown to Florence, Tex. O. H. Crittenden is engineer at Palestine, Tex.

Tex., Lufkin.—Reported that the Angelina County Lumber Co. proposes to extend its tram line and will build a bridge over the Angelina River.

Tex., Miles Station.—R. A. Love, vice-president and general manager of the Concho, San Salva & Llano Valley Railroad Co., announces that the line will be opened from Miles to Shawnee, 6½ miles, immediately, and on October 1 10 miles farther to Paint Rock, a total of 16½ miles. Connection is made with the Santa Fe at Miles.

Tex., San Antonio.—The San Antonio Traction Co. will, it is reported, apply for franchise to build an extension about one mile from Prospect Hill to Lady of the Lake Academy.

Tex., San Angelo.—A mass meeting has accepted the offer of Morgan Jones of Wichita Falls calling for a bonus of \$75,000 to build a railroad from San Angelo to Ballinger, Tex., to connect with the Colorado & Southern.

Tex., San Angelo.—An officer of the Gulf, Colorado & Santa Fe Railway writes that preliminary survey is complete and location in progress for extension from San Angelo via Carlsbad and Water Valley to Sterling City, 42 miles. C. F. W. Felt of Galveston, Tex., is chief engineer.

Va., Monterey.—The Manufacturers' Record has received a letter confirming the report that it is proposed to build a railroad from some point on the Chesapeake & Ohio Railway to Keyser, W. Va., on the Baltimore & Ohio Railroad, about 160 miles. A large steel company is back of the enterprise and considerable right of way has been secured. Ore lands are to be developed. Route via Bath Alum Springs, Boler and Monterey, Va.; Franklin, Petersburg and Mayesville, W. Va. One bridge of 200-foot span will be required over the South Branch at Petersburg, also one tunnel 3000 feet long at Mare Mountain, and another 2800 feet long at Wilson Mountain. Survey is not completed. A. L. White of New York city is engineer in charge. Henry A. Slaven of Monterey, Va., is associate engineer.

W. Va., Bluefield.—Outside capitalists, it is reported, contemplate building an electric railway from Bluefield to Princeton, W. Va., 12 miles. The Mayor may be able to give information.

W. Va., Charleston.—The Kanawha Valley Traction Co. has applied for a franchise to build a connecting line on Russell street.

W. Va., Clarksburg.—The Pocahontas Con-

necting Railway Co. has been chartered to build a line about 20 miles long from Clarksburg to Jarretts Valley, all in Raleigh county. The incorporators are John G. Reading and Robert F. Allen of Williamsport, Pa.; O. P. Fitzgerald, V. L. Black and George S. Couch, Jr., of Charleston, W. Va.

W. Va., Fairmont.—Regarding a report that it will build a railroad, the Virginia & Pittsburgh Coal & Coke Co., Fairmont, W. Va., writes that it has requested the Baltimore & Ohio Railroad Co. to build a spur about one mile long to reach coal lands about five miles below Fairmont, on the Monongahela River.

W. Va., Gassaway.—The Elk & Little Kanawha Railroad Co. has been chartered to build a line from a point near Gassaway, in Braxton county, to Rosedale, Gilmer county. Capital, \$150,000. Headquarters at Cleveland, Ohio. The incorporators are George E. Price, Buckner Clay, J. Edmund Price, A. C. Collins and R. P. Flournoy, all of Charleston, W. Va.

Huntington.—Franchise is granted to Albert E. Cox of Huntington by the town of Chesapeake for an electric street railway. He represents Pittsburg and English capitalists who propose to build a line from Guyandotte to Point Pleasant, W. Va., and also from Gallipolis to Ironton, O.

W. Va., Logan.—Plans are reported to build a railroad 20 miles long from Logan, on the Chesapeake & Ohio Railway, up Island Creek to coal mines. Pennsylvania capital is said to be interested. H. Pierce, engineer of construction of the Chesapeake & Ohio Railway, Richmond, Va., may be able to give information.

W. Va., Webster Springs.—Concerning the report that the West Virginia Midland Railroad would convert all its line to standard-gauge and also build an extension, an officer tersely writes, "Nothing doing."

STREET RAILWAYS

Ala., Attalla.—Reported that a movement is under way to build a street railway. The Mayor may be able to give information.

Ala., Montgomery.—The Mayor has approved a franchise for the Montgomery Traction Co. to extend its line on Jeff Davis avenue and for a new line on Stone, Day and Hill streets.

Fla., Pensacola.—The Pensacola Electric Co. has applied for a franchise to build an extension on West Garden and De Villier streets.

Ga., Brunswick.—The City & Suburban Street Railway Co. has completed six miles of line and will, it is announced, begin operations September 20. A belt line three or four miles long will now be built.

Ga., Macon.—The Macon Railway & Light Co., it is reported, contemplates building an extension from East Main street to the Recreation Club grounds.

S. C., Rock Hill.—J. M. Cherry, it is reported, contemplates building an electric street railway. Engineers are surveying.

Va., Charlottesville.—The Charlottesville & Albemarle Street Railway Co.'s stockholders have approved the plan for building an extension to Lambeth Field.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Air Compressor.—Eastern Railway Supply Co., 413 American Bldg., Baltimore, Md., wants 450 cubic feet straight-line air compressor to run five drills.

Automobiles.—W. L. Goodhart, Lebanon, Tenn., wants prices and catalogues on either steam, gasoline or electric passenger automobiles with top; capacity, 10 to 20 passengers.

Boller.—Evangeline Sugar Manufacturing Co., J. T. Lejeune, general manager, Breau Bridge, La., wants 1800-horse-power boiler.

Boller.—See "Hoisting Engine."

Bolts and Nuts.—Chaney & Bull, 21 Moor-gate St., London, England, want to correspond with American manufacturers of hexagon-head round-neck bolts, with hexagon nuts, of various sizes; also square-head round-neck bolts, with square nuts; packed in iron kegs and cases of 100 pounds net; buy for Manila market, which has been closed to European bolts and nuts by new tariff. (Copy of specifications on file with Manufacturers' Record.)

Brick.—W. T. Martin, pastor M. E. Church South, Leslie, Ark., wants prices on brick for \$5000 church.

Bridge Construction.—Bids will be received at office of P. St. J. Wilson, State Highway Commissioner, Richmond, Va., until September 18 for construction of two steel bridges across Fox Creek, one 70 feet long and one 100 feet long; plans and specifications at office of State Highway Commissioner and of Clerk of Court, Independence, Va.; further information on application to office of State Highway Commissioner; certified

Bridge Construction.—Bids will be received at office Board of Control, D. G. Brown, clerk, Wheeling, W. Va., until September 20 for material and work required for construction and reconstruction of substructure of bridge at Market street over Wheeling Creek; plans and specifications on file at office of Herman Laub, consulting engineer, Lewis Bldg., Pittsburg, Pa., and of City Engineer, City Bldg., Wheeling; certified check \$1000; blank forms furnished by Board of Control, check, \$250.

Bridge Construction.—Lawrence County Board of Supervisors, W. H. Speights, clerk, Monticello, Miss., will award contract October 4 for construction of steel bridge across Bohala Creek on Jackson road, steel approaches to steel bridge across Pearl River and steel bridge across Hall's Creek on Holmesville road; plans and specifications on file with Mr. Speights; each bid to be accompanied by certified check for 10 per cent. of contract price.

Bridge Construction.—John M. Murch, County Auditor, Galveston, Tex., will receive bids until September 20 for construction of Horseshoe Bend bridge over bayou near four-mile post, Galveston Island; plans and specifications on file in office of County Auditor, from whom copies can be had on application; certified check \$50.

Bridge Construction.—See "Road Construction."

Broom Manufacturers.—C. B. Davis, 1821 Everett St., Manchester, Va., wants addresses of manufacturers of brooms.

Building Materials.—Chester County Farmers' Warehouse Co., Chester, S. C., wants bids on all kinds of building materials.

Building Materials.—Miller Construction Co., Charles A. Miller, 614 Merchants' National Bank Bldg., Fort Smith, Ark., in market for building materials, machinery, tools, etc., for general contracting.

Building Materials.—Munn & Benoit, 116½ North Broadway, Oklahoma City, Okla., want prices on plate glass, hollow tile, cement, metal lath, etc.

Building Materials.—Southern Structural Steel Co., San Antonio, Tex., wants prices on cement, brick and lime for jail building at Greensboro, Ala.

Candle Machinery.—R. A. Gray, chief engineer, F. C. Transcontinental Mexicano, San Felipe, Estado de Gto., Mexico, wants catalogues and net prices on candle-making machinery.

Cars.—Peacock's Iron Works, Selma, Ala., wants second-hand 20-ton-capacity 30 or 36-foot flat cars; standard gauge, New Orleans delivery.

Cement Foundations.—Carter & Brice, Wallace, N. C., want to correspond with contractors for cement foundations for water mills and buildings ready for machinery.

Chair Manufacturers.—A. H. Pitts, 534 Calvert St., Baltimore, Md., wants to negotiate with chair manufacturers.

Clothes-pressing Machinery.—Reliance Pressing Club, Wilmington, N. C., wants information and prices on pressing equipment. Address care P. L. Smith, care Atlantic Blow Pipe Co., Box 185.

Coloring Shells.—I. Mendelsohn, Srednia-Str. No. 2, Lodz, Russia, wants addresses of manufacturers of or dealers in metal shells (metallic huelsen) for coloring yarns on spools.

Concrete Machinery.—Munn & Benoit, 116½ North Broadway, Oklahoma City, Okla., want prices on concrete machinery.

Concrete Mixers, etc.—State Manufacturing Co., Inc., Norfolk, Va., wants concrete mixers and tools.

Corn-grinding Machinery.—Wallace Bros.,

Norfolk, Va., want agency for machinery to grind corn into meal, hominy, etc.

Corn Shellers.—A. L. Wilson Company, Quincy, Fla., wants addresses of manufacturers of power shellers to clean and shell corn in shack.

Cotton Machinery.—Great Southern Cotton Mills, S. S. Lowrey, 12 North 6th St., Fort Smith, Ark., wants data and prices on cotton-mill machinery.

Curbings.—C. L. Scholl, chairman street and alley committee, Parkersburg, W. Va., will receive bids until September 23 for furnishing material, labor and tools for laying cement curbing; plans and specifications on file in office of City Engineer; amount appropriated \$6000; certified check \$200; further information furnished by City Engineer; Frank Good, Auditor.

Curbings.—F. T. Patterson, City Clerk, Newbern, N. C., will receive bids until September 20 for placing 20,000 feet of curb; plans and specifications at office of City Engineer; material to be furnished by city.

Distilling Machinery.—H. G. Burnet, superintendent El Calimital Fruit Co., Los Palacios, Cuba, wants to correspond with manufacturers of small distilling plants for making denatured alcohol on farm.

Drills.—Kansas City Crushed Rock Co., 322 New Ridge Bldg., Kansas City, Mo., wants information on drills.

Electric Fixtures.—J. L. Coker & Co., Hartsville, S. C., want electric fixtures.

Electric-lighting System.—514 Fifth Ave., Highland Park P. O., Richmond, Va. Proposals will be received until September 23 for furnishing materials and constructing system of poles and wires for distribution of electricity throughout Highland Park. For information, plans, specifications and forms of proposals apply at above office or of C. P. E. Burgwyn, 917 Bank St., Richmond, Va.; A. G. Quarles, chairman.

Electric-lighting System.—Bids will be received at office of Capt. Warren W. Whit-side, constructing quartermaster, Fort Myer, Va., until October 13 for interior electric wiring of 44 buildings, including fixtures, and installation of complete outside distributing system for the post; alternate bids are asked for underground and overhead distributing system; certified check for 10 per cent. of bids; plans and specifications furnished on application, accompanied by deposit of \$10.

Electrical Machinery.—H. D. Jaquish, Gainesville, Ga., wants 2200-volt, two-phase, 60-cycle, 50 to 75-kilowatt motor, new or second-hand. Westinghouse or General Electric preferred.

Electrician.—A. H. Pitts, 534 N. Calvert St., Baltimore, Md., wants to negotiate with electrician.

Elevator.—Geo. W. Blackburn, Sarasota, Fla., wants prices on elevator.

Elevators.—Rudolph Grunthal, Jacksonville, Fla., wants elevator 5x1.

Elevators.—Kansas City Crushed Rock Co., 322 New Ridge Bldg., Kansas City, Mo., wants information regarding elevators.

Engine.—See "Gasoline Engine."

Filtering Machinery.—Strasburg Manufacturing Co., 12 West 31st St., New York, wants catalogues and prices on system to purify limestone water for boiler at Strasburg (Va.) plant.

Flue Cleaner.—Sperry & Lukins, Artesia, N. M., want machinery for knocking scale from boiler flues.

Foundry Machinery.—Hays Rapid Tunneling & Mining Machine Co., H. E. Shelton, secretary, Birmingham, Ala., wants catalogues and prices on foundry and machine-shop equipment.

Furniture.—J. A. Niles, secretary Commercial Club, Oxford, N. C., wants catalogues and prices on clubroom furniture.

Gasoline Engine.—W. A. Cook, Tampa, Fla., wants second-hand 25-horse-power stationary gasoline engine.

Gasoline Engine.—Justin Matthews, Little Rock, Ark., wants 30-horse-power gasoline engine.

Glass.—Bank of Fair Bluff, Fair Bluff, N. C., wants prices on glass front, plate glass, etc., for small bank and store building.

Glove Machinery.—J. E. Keller, Funkstown, Md., wants prices on raw materials and machinery for canvas gloves.

Grading.—B. H. Colby, 812 Security Bldg., St. Louis, Mo., engineer for University Heights Realty & Development Co., will receive bids until September 20 for grading for residence purposes tract of land 2000x3000 feet adjacent to St. Louis; excavation, 810,000 cubic yards, all of which is to be deposited upon property graded; certified check, \$5000; work to be completed within one year;

most of work is suitable for operation of steam shovels; plans, profiles and specifications on file at Woman's Magazine Building and office of engineer, or will be sent to any address by Mr. Colby upon receipt of \$15.

Hay.—F. A. Langbehn, Galveston, Tex., wants quotations on hay for shipment from United States to Mexico via Gulf ports.

Heating Plant.—Geo. Thornburgh, president Methodist Orphanage, Little Rock, Ark., wants prices on heating plant for \$30,000 building.

Heating Plant.—J. S. Carlton, Sardis, Miss., wants prices on heating plant for new church building (steam preferred).

Heating Plant.—Southern Structural Steel Co., San Antonio, Tex., wants prices on heating plant for jail building at Greensboro, Ala.

Hoisting Engine.—Jos. E. Bowen, 901 Bank of Commerce Bldg., Norfolk, Va., wants 8 or 8½x10 double cylinder double-drum hoisting engine, complete with boiler.

Hoisting Machinery.—Munn & Benoit, 116½ North Broadway, Oklahoma City, Okla., want prices on hoisting apparatus for erection of building.

House Mover.—W. S. Beamon, care Holland & Beamon Company, Suffolk, Va., wants to correspond relative to having 40-foot-square brick dwelling removed to new site; distance about 300 yards.

Ice-cream Machinery.—Bernard Thyson, Clifton Forge, Va., wants prices on ice-cream machinery; in two sections; to make cream and harden 600 gallons daily by using brine from ice tank.

Ice Machinery.—W. B. Powell, secretary Board of Trade, Tampa, Fla., wants to correspond with manufacturers of plate-ice machinery; capacity, 25 tons daily.

Ice-plant Manufacturers.—Eutaw Whig and Observer, Eutaw, Ala., wants addresses of manufacturers of ice plants, especially plants using gas instead of ammonia.

Jetty Work.—U. S. Engineer Office, New Orleans, La. Proposals for constructing and sinking mattresses with stone at Southwest Pass, Mississippi River, for extension of east Jetty, will be received until September 13. Information on application. Lansing H. Beach, Lieutenant-Colonel, Engineers.

Lathe.—Machinery Exchange, Fayetteville, N. C., wants dealers' prices on new or second-hand lathe; about 18-inch swing by 10-foot bed.

Laundry Machinery.—See "Water Softener."

Levee Construction.—V. M. Lefebvre, president, and A. V. Dubroca, secretary, Board of Commissioners Atchafalaya Basin Levee District, Port Allen, La., will receive bids at office of Board of State Engineers, 402 Cotton Exchange Bldg., New Orleans, La., until September 20 for construction of Alabama Bayou Island Levee, on east or left bank of Atchafalaya River, in Parish of Pointe Coupee; length, 15,000 feet; contents of embankment, 380,000 cubic yards; estimate of lumber for dam, 300,000 feet, board measure; deposit required, \$800; proposed work will include construction of timber dam to arrest any tendency to flow of water in Bayou Alabama during placing of earth in position and to serve as substructure for crossing of plant, outfit, material, etc.; cash or certified check to amount of deposit; information as to location, character of work, proposals, etc., may be had on application to Board of State Engineers, New Orleans, La., or to president or secretary.

Levee Construction.—Proposals will be received at office Board of State Engineers, 402 Cotton Exchange Bldg., New Orleans, La., until September 20 for construction of following levee work: Alexandria Front Levee, Rapides Parish, Red River, enlargement contents 25,000 cubic yards, deposit \$149; Sunny Home Levee, Rapides Parish, Red River, new levee, contents 45,000 cubic yards, deposit \$180; Harvey Levee, Jefferson Parish, Mississippi River, new levee, contents 8000 cubic yards, deposit \$100; Belle Chasse Levee, Plaquemines Parish, Mississippi River, new levee, contents 55,000 cubic yards, deposit \$225; Concord Oak Point Levee, Plaquemines Parish, Mississippi River, new levee, 53,000 cubic yards, deposit \$225; Belair Levee, Plaquemines Parish, Mississippi River, new levee, contents 5000 cubic yards, deposit \$100; East Dupuis Levee, Plaquemines Parish, Mississippi River, new levee, contents 9000 cubic yards, deposit \$100; cash to amount of deposit to accompany each proposal; other information as to location, character of work, blank forms for proposals, etc., may be obtained at office Board of State Engineers; J. Y. Sanders, Governor of Louisiana; Frank M. Kerr, Chief State Engineer.

Levee Construction.—South River Levee and Drainage District, between Hannibal

and Quincy, Mo., H. C. Sheets, Palmyra, Mo., engineer in charge, is receiving bids on revetment; cost \$30,000.

Lighting Plant.—L. E. Robinson, Welsh, La., wants prices on lighting plant.

Lithographers.—Dr. Jos. S. Horner, Hot Springs, Ark., wants to correspond relative to placing order for printing of bonds.

Locomotive.—Volusia Lumber & Naval Stores Co., Oak Hill, Fla., wants very small second-hand locomotive.

Locomotive Tires, etc.—Bids will be received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until October 4 for furnishing locomotive tires, sheaves, ratchet wheels, pinions, wire netting, etc.; blanks and general information relating to Circular No. 537 may be obtained at above office or office of assistant purchasing agents, 24 State street, New York; 55 National Realty Building, New Orleans; 1085 North Point street, San Francisco, Cal.; also from U. S. Engineer office in following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash.; F. C. Roggs, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

Macaroni Machinery, etc.—R. A. Gray, chief engineer, F. C. Transcontinental Mexican, San Felipe, Estado de Gto., Mexico, wants catalogues and net prices on machinery for making macaroni, vermicello, etc.

Machine Tools.—Magnolia Oil Mill & Manufacturing Co., Magnolia, Miss., wants one second-hand engine lathe, 8 feet between centers, 26-inch swing; one second-hand planer, about 20x20, 8-inch bed.

Machine Tools.—See "Foundry Machinery."

Metal Signs.—C. P. Ambler, Asheville, N. C., wants metal road signs with lettering stamped upon or riveted into plate.

Motor Cars.—El Paso Suburban Railway Co., 209 Mesa Ave., El Paso, Tex., wants two 20 to 40-passenger motor cars.

Moving-picture Machinery.—A. H. Pitts, 534 Calvert St., Baltimore, Md., wants to negotiate with agents of moving-picture machinery.

Oil-mill Machinery.—Union Gin Co., Route 1, Adel, Ga., wants prices on seed-crusher.

Oil Refinery.—Tri-State Oil Co., Bliss Bldg., Tulsa, Okla., in market for oil refinery; second-hand.

Oil Tanks.—F. A. Langbehn, Galveston, Tex., wants quotations on cylindrical oil tanks for shipment from United States to Mexico via Gulf ports.

Oil Tanks.—J. L. Coker & Co., Hartsville, S. C., want oil tanks.

Paving.—Bids addressed to Mayor and General Council, Atlanta, Ga., will be received at City Clerk's office until September 20 for paving Marietta street with crosotized wooden block from Peachtree to Spring street, 10,300 square yards; Marietta street from Spring street to Tabernacle place, 7000 square yards, and Forsyth street from Luckie to Peachtree street, 2350 square yards. Bids will be made and considered separately on each street or section of street. Specifications can be had upon application to R. M. Clayton, City Engineer.

Paving.—Thomas W. Smith, Mayor, Huntsville, Ala., will open bids October 19 to pave, curb and gutter sidewalks on Eastis street; specifications, etc., on file in office of City Clerk; specifications furnished on request; certified check \$200.

Paving.—Board of Affairs, Parkersburg, W. Va., will receive bids until September 23 for furnishing material, labor and tools and completing paving on Murdoch avenue, 19th, Mary and 10th streets; plans and specifications on file in office of Frank Good, Auditor, or City Engineer; certified check \$500; information, specifications and blank proposal forms furnished by City Engineer or City Auditor.

Paving.—R. J. Carille, City Clerk, Elk City, Okla., will receive bids until September 27 for eight blocks of sheet asphalt paving, including grading, storm sewer, curb and gutter, etc.; plans and specifications on file at office of City Clerk in Elk City and of F. H. Lancashire, engineer, Wilson Bldg., Dallas, Tex.; certified check for \$5 required to secure plans and specifications; each bid to be accompanied by certified check for \$1000.

Paving.—City of Vicksburg, Miss., wants (advertised) bids for paving about 40,000 square yards on Cherry, Harris and Drummond streets with crosotized wood block, vitrified brick, asphalt, bitulithic or granitoid;

C. R. Twiss, City Engineer, has plans and specifications.

Peanuts.—Magnolia Oil Mill & Manufacturing Co., Magnolia, Miss., wants information and data on manufacture of peanuts.

Pianos.—A. H. Pitts, 534 Calvert St., Baltimore, Md., wants to negotiate with piano salesman.

Pipe.—Justin Matthews, Little Rock, Ark., wants 500 tons four, six and eight-inch cast-iron pipe.

Pump.—Justin Matthews, Little Rock, Ark., wants triplex power pump, 300 gallons capacity.

Pump.—Kirwan-Rohrds Supply Co., 409 Exchange Pl., Baltimore, Md., wants eight-inch suction, eight-inch discharge, centrifugal Morris pump; direct connected; second-hand.

Pumps.—Prosperity Cotton Oil Mill Co., Prosperity, S. C., wants information relative to pump (steam driven preferred) for six-inch well 114 feet deep; capacity 15 to 20 gallons per minute.

Pumping Plant.—South River Levee and Drainage District, between Hannibal and Quincy, Mo., H. C. Sheets, Palmyra, Mo., engineer in charge, is receiving bids on \$25,000 pumping plant.

Rails.—Volusia Lumber & Naval Stores Co., Oak Hill, Fla., wants two miles 16 to 20-pound rail.

Railway Construction and Equipment.—Electric Traction Construction Co., Commerce Bldg., Kansas City, Mo., is receiving bids on 5000 tons 70-pound rails, 150,000 6x8x8 white oak, cypress or cedar ties, cars, etc.

Road Construction.—Sullivan County Road Commissioners (John H. Caldwell, John W. Swadley and John G. Preston), Bristol, Tenn., will open bids October 9 for grading and macadamizing 60 miles of road; profiles and specifications on file in office of F. G. Phillips, engineer, after October 1; certified check, 2 per cent. of bid.

Road Construction.—Bids will be received for grading and building driveway on lot on Kingston pike. Plans and specifications can be seen at 1516 Laurel avenue, Knoxville, Tenn.

Road Construction.—George L. Fearn, auditor of Dallas county, Dallas, Tex., will receive separate bids until September 18 for construction of portion of Beckley, Wheatland and Duncanville, Denton, Richardson and Cedar Hill roads; repairing and construction of Coppell road; repairing of Fort Worth, another portion of Beckley, and Lancaster roads; completion of Grand Prairie and Sowers road; plans and specifications on file with J. F. Witt, county engineer; proposals to be on blanks furnished by county; certified check for 5 per cent. of contract price to accompany each bid.

Road Construction.—L. C. Davis, G. A. Hiner and Elijah Puffenberger, road superintendents, Brandywine, W. Va., will open bids September 18 for construction of one mile and 600 feet of Shenandoah Mountain road.

Road Construction.—Bids will be received until October 7 at office of A. B. De Loach, Mayor, Texarkana, Tex., for construction of roads and bridges in road district No. 1 of Bowie county, Tex. Plans and specifications and bidding blanks can be seen at office of J. W. Maxey Company, Houston, Tex.; Mayor's office, Texarkana; office of Joseph H. Hughes, County Judge, New Boston, Tex. Bids to be made for entire work, including roadways, bridges and culverts.

Road Construction.—Ohio County Commissioners, Wheeling, W. Va., will open bids September 20 for macadamizing roads in Liberty, Triadelphia, Richie and Richland districts. For further information address A. S. Bell, County Engineer, City Bank Bldg.

Road Machinery.—Eastern Railway Supply Co., 413 American Bldg., Baltimore, Md., wants scarifier, 10-ton road roller and 500-gallon sprinkler.

Road Machinery.—Hobbs-Ives Equipment & Machinery Co., Norfolk, Va., in market for second-hand Royal grader.

Sawmill.—Hutchins Lumber Co., P. S. Hutchins, secretary and treasurer, Durham, N. C., will receive bids for \$1500 sawmill outfit.

Sawmill.—Clay Parrott, Kinston, N. C., wants second-hand sawmill; daily capacity 5000 feet.

Sawmill.—B. F. Trantham, Route 3, Box 34, Jacksonville, Fla., may buy sawmill, carriage, edger and trimmer.

Screens.—Kansas City Crushed Rock Co., 322 New Ridge Bldg., Kansas City, Mo., wants information regarding rock screens.

Screens.—See "Steel Tipple."

Sewer Construction.—Bids will be received at Bureau of Yards and Docks, Navy De-

partment, Washington, D. C., until October 2 for constructing tile sewer at Navy-yard, Charleston, S. C. Plans and specifications can be obtained on application to bureau or to commandant of Navy-yard named; Wm. H. Smith, acting chief of bureau.

Sewer Construction.—Office Commissioners, District of Columbia. Proposals will be received until September 27 for construction of sewers in District of Columbia. Forms of proposals, specifications and information may be obtained from chief clerk engineer department, District Building, Washington, D. C. Henry B. F. Macfarland, Henry L. West, William V. Judson, Commissioners.

Sprinkler.—See "Road Machinery."

Steel Building.—Evangeline Sugar Manufacturing Co., J. T. Lejeune, general manager, Breaux Bridge, La., wants prices on steel building 100x250 feet.

Steel Ceilings.—Geo. W. Blackburn, Sarasota, Fla., wants prices on steel ceilings.

Steel Lockers.—Office of Commissioners, District of Columbia, Washington, D. C. Proposals will be received until September 20 for furnishing, delivering and erecting in Eastern High School 425 sheet-steel lockers; blank forms of proposal and necessary information may be obtained upon application to property clerk, D. C., District Bldg.; Henry B. F. Macfarland, Henry L. West, William V. Judson, Commissioners, D. C.

Steel Tipple.—Glen Alum Coal Co., Glen Alum, W. Va., wants steel tipple, screens and conveyor line. Address Glen Alum Coal Co., J. R. Gilliam, president, Lynchburg, Va.

Store Fixtures.—Proximity Mercantile Co., John J. Phoenix, president, Greensboro, N. C., in market for store fixtures.

Store Fixtures.—D. H. Laney, Chesterfield, S. C., wants prices on drug-store fixtures.

Sugar-mill Machinery.—Evangeline Sugar Manufacturing Co., J. T. Lejeune, general manager, Breaux Bridge, La., wants 1500-ton sugar mill and crusher, and general mill supplies.

Tank and Tower.—Justin Matthews, Little Rock, Ark., wants 50,000-gallon steel tank on 125-foot steel tower.

Tank Cars.—Tri-State Oil Co., Bliss Bldg., Tulsa, Okla., wants tank cars for crude oil; 8000, 10,000 and 12,000 gallons capacity.

Tannin Extract.—Chas. L. Ruffin, Box 49, Johnson City, Tenn., wants information, data and prices on plants for manufacture of tannin extract from chestnut wood.

Tools.—See Concrete Mixers, etc.

Truss Hoops.—F. A. Langbehn, Galveston, Tex., wants quotations on truss hoops for shipment from United States to Mexico via Gulf ports.

Vault.—Farmers' State Bank, J. R. Albright, vice-president, Cooper, Tex., wants prices on vault.

Wagon Wheels.—J. T. Fleming, 901 Boardwalk, Atlantic City, N. J., wants addresses of manufacturers of wagon wheels.

Wire Glass.—D. H. Laney, Chesterfield, S. C., wants wire glass for hothouse top, 10x24 feet.

Water Softener.—Corinth Steam Laundry Co., Corinth, Miss., wants water softener of 8000 to 10,000 gallons capacity.

Water-works Equipment.—Federal Engineering & Contracting Co., Okmulgee, Okla., wants bids on boiler, pumps, pipe, stand-pipe, cement, crushed stone, sand, brick, etc., for construction of city water-works.

Windmill.—Dickenson county, Va., wants to purchase small windmill for well on public square. Address A. A. Skeen, G. M. Jones, Emory B. Chase, committee, Clintwood, Va.

Woodworking Machinery.—Louisville Furniture Manufacturing Co., James R. Duffin, Louisville, Ky., in market for double tenant machine, combination tongue and groove and glue machines.

Georgia Creosoting Co.

Referring to its contract (mentioned last week) for paving at Washington, Ga., the Georgia Creosoting Co. says its purpose is to introduce the short-leaf pine block through that contract. The company believes the blocks compare favorably with long-leaf pine blocks and intends to have Government authorities keep records of the durability of the pavement. The block is of the usual dimensions for this class of work, viz., 3x3x8 inches, and weighs when treated about five pounds on the average, and will contain 20 pounds of creosote to the cubic foot. Standard methods of street paving for city traffic will be followed in laying this block. The Georgia Creosoting Co. has its general offices at 25 Tucker street, Trenton, N. J., with plant and shipping point at Picklin, Ga. It manufactures wood preservers, wood-pipe conduit, crossarms, etc. Arnold Hill is manager at Picklin.

INDUSTRIAL NEWS OF INTEREST

Announcement.

Samuel H. Dougherty, for many years St. Louis sales manager of the Joseph Dixon Crucible Co. of Jersey City, has severed his connection with that company and is now Western representative of the Jonathan Bartley Crucible Co. of Trenton, N. J.

Clay Plant for Sale.

Manufacturers are advised that the Columbia Clay Works of Columbia, Ill., is offered for sale. This comprises a complete sewer-pipe plant and a clay mine equipped for operation. For information address the company at 610 Commonwealth Trust Bldg., St. Louis, Mo.

Sodeman Heat & Power Co.

The Sodeman Heat & Power Co. of St. Louis and Memphis has established offices at Birmingham, Ala., and intends to be active in estimating on heat and power equipments for buildings and plants in the Birmingham district. Daniels & Fordyce are the company's representatives at Birmingham.

Coal Mining Plant for Sale.

The Belvedere Gas Coal Co. coal leases on 500 acres of land, mining and electrical plant, etc., will be offered for sale at public auction on October 2. This plant is located at Sprigg, Mingo county, West Virginia. For particulars address Harry Scherr, Williamson, W. Va., or R. S. Spilman, Charleston, W. Va.

For Export to Mexico.

F. A. Langbehn of Galveston, Tex., has been appointed purchasing and forwarding agent for S. Pearson & Son, Ltd., of Mexico City. He will buy material of all kinds for shipment from all United States gulf ports to Mexican ports. At present Mr. Langbehn invites quotations on truss hoops, hay, cylindrical oil tanks, etc.

Delaware Cotton Co. Offered.

The Delaware Cotton Co. of Wilmington is to be liquidated and its plant is offered for sale. This sale will be held on September 23, and the property will be offered in lots to suit purchasers. An illustrated and descriptive catalogue can be obtained by addressing the auctioneers in charge, J. E. Conant & Co., Lowell, Mass.

Power for Plate Mill.

The sheet and tin-plate mill of the new Altiuppa works of the Jones & Laughlin Steel Co., on the Ohio River below Pittsburgh, will be served with power to operate a number of direct-current motors through a rotary converter from a 500-kilowatt 6000-volt three-phase 25-cycle Westinghouse turbo-alternator, built by the Westinghouse Electric & Manufacturing Co. of Pittsburgh, Pa. The fuel used in the boiler plant will be coke-oven gas, and the turbine will operate on a steam pressure of 150 pounds, exhausting into a vacuum of 28 inches.

Western Electric Co.'s Sales.

As reflecting a satisfactory and steady advance, the returns of the Western Electric Co. of Hawthorne, Chicago, Ill., New York office at 463 West St., for the first nine months of the fiscal year ending November 30, indicate gross sales for the entire year of approximately \$47,000,000. While these figures are below the totals for 1906 and 1907, which were \$69,000,000 and \$53,000,000, respectively, as compared with last year, they represent an increase of about \$14,000,000. Returns for August show that the sales increased over the same month last year about 60 per cent., and over August, 1907, about 10 per cent.

Locomotive Skidder and Loader.

The progressive and busy plants at Newport News, Va., include that of the Warwick Machine Co., which make a specialty of marine repairs and undertakes any special construction. The company is now manufacturing a combined locomotive skidder and loader, for the sawmill industry principally, but also available for contractors' purposes. It has planned to construct this machine in the most approved manner and at the same time keep the cost at about the same amount which would be paid for a locomotive of the same capacity. The new machine will be completed within 30 days.

Stevens Telescopes and Rifles.

The Wimbledon Cup match at Camp Perry, Ohio, August 20, was won with a Stevens telescope rifle by Sergt. V. H. Czegka, United States Marine Corps, with a score of 98. Expert national guard and regular army riflemen competed in this match. It is claimed that Stevens rifles and Stevens tele-

scopes hold more records for accuracy than all other makes, and the especial utility of the Stevens telescope is becoming more and more apparent. The J. Stevens Arms & Tool Co., Chicopee Falls, Mass., build rifle telescopes for every rifle of standard make, and special telescopes for the use of military men. A catalogue containing detailed descriptions and illustrations of the entire Stevens telescope line will be forwarded to inquirers.

"Swamped" With Orders.

Among the large manufacturing companies of the country which have materially felt the effect of the industrial revival is the Trump Manufacturing Co. of Springfield, Ohio. One of its officials is quoted as saying that it is "swamped" with orders, having booked more in the last three months than during the previous year. This company manufactures high-grade turbines, hydraulic and steam engines, and has recently made an extensive shipment to the West Coast of Africa. Its turbine trade in the South has been gratifying, and it has under construction at present three hydro-electric plants in Tennessee. These are for the city of Winchester, A. & T. Power Co., Sparta, and the Walling Light & Power Co., McMinnville.

Lynchburg Foundry Co. at Chicago.

The Lynchburg (Va.) Foundry Co. announces it has established a Western office in Chicago with John R. McWane, Western sales manager, in charge. He will sell the company's product in Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North and South Dakota, Nebraska, Kansas, Colorado, Wyoming, Montana, Idaho, Utah, Nevada, California, Oregon and Washington. The company is now prepared to furnish cast-iron bell and spigot and flanged water and gas pipe in sizes 3 to 36 inches diameter, inclusive, and has a daily output of pipe and special castings of 175 tons. Buyers in the above-named States are invited to address inquiries to John R. McWane, the Western sales manager, at No. 508-509 Monadnock Bldg., Chicago, Ill.

Recent Link-Belt Orders.

Many orders have been received recently by the Philadelphia plant of the Link-Belt Co. of Chicago, Indianapolis and Philadelphia. These orders called for equipments to be installed in various plants throughout New York, New Jersey, Rhode Island, Delaware, New Hampshire, Florida, Pennsylvania, Massachusetts, Illinois and Washington. They included coal-handling machinery, chalk-handling equipments, apron and screw conveyors, shallow trough belt conveyors, equipments for handling phosphate rock at the mines, conveying machinery for a Government powder-house, etc. Among numerous silent chain orders there were about 500 drives. Recent export shipments included flight conveyors, bagasse feeders, juice strainers, trash elevators, conveyors and other miscellaneous sugar-handling devices for Cuban companies.

For Roofing and Siding.

The Minneapolis (Minn.) Steel & Machinery Co. has recently taken the agency for the western part of the United States for the roofing and siding manufactured by the Asbestos Protected Metal Co., Canton, Mass. This material is something out of the ordinary line of roofing and siding, being made up of a steel sheet coated both sides with asphaltum cement, over which is a layer of pure asbestos felt, the steel sheet giving it the structural strength of corrugated iron, while the asphaltum and asbestos covering renders the sheets immune to the attack of acid fumes, gases, moisture, rust, etc. The sheets are especially designed for use on gas-houses, chemical works, train sheds, foundries and shop buildings, smelters and reduction works, where the sulphurous fumes and gases will quickly destroy unprotected steel sheets. They are made in corrugated, flat and beaded sheets and applied in the same way as corrugated iron.

Large Contract for Fire-Brick.

A large contract for fire-brick linings has been received by the Union Mining Co., proprietor of the Mt. Savage Fire-Brick Works, which was established in 1841. The contract calls for fire-brick linings for five stoves, 80x20 feet, making the second order of this kind recently received by the company. Mt. Savage furnace linings are affording satisfaction to many users, and the bricks are now the subject of considerable inquiry by furnace operators. The Union Mining Co. has offices in the Fidelity Building, Baltimore, Md. This contract was secured from

the New Jersey Zinc Co. The Union Mining Co. has also received an order for fire-brick to line two nodulating rotary kilns to be erected by the Central Iron & Coal Co. at Holt, Ala., this making the second order for a nodulating plant within the past few months. Another contract received last week is for more than 300,000 bricks for constructing a large electrical-power plant in central Pennsylvania.

A Babcock & Wilcox Announcement.

When the Babcock & Wilcox Co., 85 Liberty St., New York, began three years ago to make the A. & T. boiler (built previously by the Aultman & Taylor Machinery Co.) it was with the expectation of immediately making the logical improvement in the construction of this boiler to be obtained by the substitution of wrought steel headers for the cast-steel headers that had been used in these boilers under the trade name of "flowed" steel. The demands of trade delayed this change, but at the same time afforded the company an opportunity of thoroughly investigating the use of and results obtained from cast or so-called "flowed" steel headers identical with those used by the Aultman & Taylor Machinery Co. and finished for the boiler by much the same organization and the same methods employed by that company. The result has so thoroughly confirmed the Babcock & Wilcox Company's opinion as to the superiority of wrought metal for this purpose that it has decided to use only wrought steel sinuous headers as a standard in any of its horizontal boilers designed for pressures exceeding 160 pounds. In order to reach this result as early a date as possible the company has for some time past discontinued the purchase of any cast-steel headers, and now offers boilers with headers of this material made from existing stock at a reduced price until such time as the stock has been exhausted.

Regarding Belts and Dressings.

"After a belt has been in use some time its surface takes on a glaze. This results in losses due to slipping, always accompanied by heating, and draws the natural oils to the surface, causing them to evaporate. This condition further leads to the belt's getting stiff and hard, and lessens the angle of wrap (the angle between the extreme points touched and covered by the belt on the pulley). Without attention belts are almost sure to deteriorate as above described. Their efficiency is increased and their life lengthened according to the treatment they receive. To prevent the formation of surface glaze and the slipping accompanying it, it is the best practice to use a reliable belt dressing. This dressing should be of a nature that will not only offer temporary relief, but that will penetrate through the surface of the belt and replenish the natural oils. This will result in keeping the belt pliable and preserving the original efficiency. Rosin is very frequently applied to prevent slipping, and this it will do, but at the same time it destroys the life of the belt itself. You get a temporary cure but greatly shorten the life of the belt—the rosin dries out the belt and makes brittle the leather fibers. Dixon's traction belt dressing has through long service proved its value in preserving belts at high efficiency. It does not supply a surface stickiness, but is absorbed by the belt, thus keeping it in its natural condition, preventing the formation of surface glaze with the attendant slipping and maintaining the angle of wrap at its widest points." The above statement is from the Joseph Dixon Crucible Co. of Jersey City, N. J. This company invites inquiries from belt users.

TRADE LITERATURE.

The Kelly-Springfield Calendar.

The Kelly-Springfield Road Roller Co. of Springfield, Ohio, has issued an attractive calendar running for one year from May, 1909, to April, 1910. This calendar is attractive enough to survive the influx of calendars at the beginning of the new year.

Asbestos Protected Metal.

The value of roofing and siding is determined by the length of time it will give satisfactory protection to buildings and their contents. A material which is claimed to be practical in its structure, with individual characteristics, merit and serviceability, is known as asbestos protected metal. It is applicable to a wide variety of service as roofing, siding and interior sheathing, and for fireproofing in buildings of all kinds. The product is manufactured by the Asbestos Protected Metal Co., main office and factory at Canton, Mass., and is described and illustrated in a pamphlet which the company is distributing.

The Burroughs for September.

Interesting information relative to the Burroughs adding machines, as well as some facts regarding the manufacturer's facilities throughout the world, are presented in "The Burroughs for September." This number of the publication contains numerous illustrations of scenes, products and persons to assist the reader in giving full appreciation to the text. It is almost needless to add that "The Burroughs" is published by the Burroughs Adding Machine Co., Detroit, Mich.

Sealing and Corroding Substances.

There has been issued a pamphlet that will interest many people of the industrial world. The publication is entitled "Sealing and Corroding Substances and Their Elimination from Water for Boilers." It is a reprint from the proceedings of the Scranton Engineers' Club, and its author is J. C. William Greth. The William B. Scalle & Sons Company, specialist in water softening and purifying systems and water filters, 221 First Ave., Pittsburg, Pa., will send copies of the pamphlet to inquirers.

Morris Metallic Packing.

A pamphlet recently issued by the H. W. Johns-Manville Company, 100 William St., New York, illustrates and describes the Morris metallic packing. This packing is made of specially-treated soft gray cast-iron, and is said to possess a very high melting point, which renders it impervious to the great heat of the high steam pressures now employed. It is designed for use on stationary and marine engines, gas engines, steam locomotives, steam pumps, air and gas compressors, etc.

A Study of the Open Hearth.

A treatise embracing a comprehensive study of open-hearth steel furnaces and their operation has recently been issued by the Harbison-Walker Refractories Co., Farmers' Bank Bldg., Pittsburg, Pa. It was intended essentially for the use of the company's operating department, but suggesting itself as of interest to iron and steel men generally, the company decided to publish it in book form. The study claims no originality, its aim being to put into concise form the principles involved, with detailed description to make the subject plain to one familiar with no more than the most elementary principles of chemistry and metallurgy. The booklet contains chapters on steel, fuels, acid open-hearth process, recarburization, basic open-hearth process and special processes.

Graham of Pittsburg.

Manufacturers and others who use nuts, bolts, lag screws and similar articles will find the new Graham publication of especial interest. This is the company's catalogue No. 6, issued in convenient form for the pocket, the size of each page being 4x6 inches, and a leather cover promotes its durability. The Graham Nut Co. announces that its new bolt plant, completed a year ago and equipped with the latest-improved machinery, is now in operation, producing a quality of material with which the company will maintain the reputation it has established during 35 years of effort devoted to the production of nuts. The Graham catalogue contains numerous illustrations, price and size lists and other information, besides many blank pages for memoranda. It can be obtained by addressing the Graham Nut Co. at Pittsburg, Pa.

Suero Filters for Water.

The Suero system is by gravity filtration and provides pure water for domestic consumption and for every industrial purpose. The filtering medium is a lamelle or cell, consisting of a frame of any suitable size or shape surrounded by a flexible filtering material. This material is produced by fusing chemically pure asbestos cloth and a porcelain-like substance into a homogeneous, in-frangible, heat and frost proof and durable mass. The lamelle is designed to occupy a perpendicular position. A small pipe introduced into the upper part acts as an air vent. The number of lamellae forming a filtration system depends entirely upon the output of filtrate required. The ordinary household or office cooler contains but one lamelle. The Suero Filter Co., 42 Broadway, New York, is distributing an illustrated pamphlet presenting details of the Suero system.

Specialties for Building Construction.

Architects, contractors and building owners are invited to investigate Berger's prong lock steel studs and joists. These specialties are offered for use in constructing solid and hollow partitions, walls and ceilings, also for high structures where the floor

loads are not heavy. The prong lock steel studs (patented) in conjunction with expanded metal lath or wire lath form the Berger prong lock system. They combine strength, lightness, ease of application and efficiency. They effectively fasten the lath and secure a smooth, even surface for the plasterer to work on. These Berger specialties are fully illustrated and described in a booklet now being distributed by the manufacturer. The publication includes photographic views of many buildings throughout the country in which the Berger system has been used. The manufacturer is the Berger Manufacturing Co. of Canton, Ohio.

An Important Catalogue.

Organizing in 1893 for the specific purpose of dismantling the World's Fair of Chicago and of marketing the vast quantities of material obtained in that way, the Chicago House Wrecking Co., 35th and Iron Sts., Chicago, has extended its volume of trade from a few thousand dollars a year to millions. Since its organization the company has dismantled and sold many other expositions, but this is only one feature of its extensive undertakings. With active business perception, ample financial resources and an able corps of buyers, it purchases stocks of machinery, merchandise and other materials forced on the market by bankruptcy or other conditions. Discrimination is shown in the purchase of these, with the result that stocks of excellent quality are secured at very low prices. The company has recently issued its catalogue No. 160, which conveys in a measure the scope of its operations. The publication contains approximately 450 pages and describes and illustrates many of the products which the company handles.

Wagner Electric Literature.

The bulletins of the Wagner Electric Manufacturing Co., St. Louis, Mo., as recently published, indicate a radical departure from the usual argument of such publications. A bulletin on the subject of alternating-current generators, just received, is typical. The story in the bulletin contains valuable information to any prospective purchaser of alternating-current generators. It is written without reference to the particular design of the Wagner company, reliance being placed in that regard almost entirely upon carefully selected illustrations and the descriptions which accompany them as captions. Recent Wagner literature will be found to be interesting, particularly the bulletins published within the year on generators, central station transformers, polyphase motors and single-phase motors. All are full of good sound reasoning and will assist any buyer in eliminating from his discussions with the salesman points which are in reality of little importance, but which are often dwelt upon to the exclusion of the really essential points.

The Milton Large Nuts.

Machinery manufacturers and others who use large nuts should not fail to investigate the Milton product. This is the Milton large nut—the result of years of specialized effort. The manufacturer has experimented with a view of developing a nut to meet the requirements of builders of engines and other highly finished machines. Its nuts not only possess great strength because of the qualities of materials used and the manner in which they are made, but they have a degree of finish unusual in large nuts. This finish gives the final perfecting touch to high-class machinery, thus augmenting its appearance. The Milton nut is offered as possessing the four great essentials—quality, efficiency, finish and accuracy. In quality and efficiency it is claimed to be superior to any nut manufactured, and for accuracy and finish to be in a class by itself. A booklet presenting photographic views of Milton nuts has been issued by the Milton Manufacturing Co. of Milton, Pa. This company is the manufacturer.

Oak Flooring. By Henry H. Gibson. Publisher, *Hardwood Record*, Chicago. Price 50 cents.

This artistic brochure, by the editor of the *Hardwood Record*, is designed to give accurate information about oak flooring, from the growing timber, through the various processes of manufacture and the handling of the finished stock to the treatment of the completed floor. In separate chapters are discussed oak trees, the manufacture of oak lumber, economical use of oak flooring, standard grades and sizes, laying the floor, handling flooring, scraping and finishing, the use of different grades and the care of oak floors. The book, which

must appeal to architects, builders, mechanics and users of oak flooring, is based upon the author's own knowledge of his subject and the results of experience of other authorities.

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD,
Baltimore, Md., September 15.

Business has been quiet in the Baltimore stock market during the past week. In the trading United Railways common sold at 13; do. income bonds, 58½ to 59½; do. funding 5s, 84½ to 85; do. do. scrip, 85½ to 85; United 4s, 88 to 87½; Consolidated Gas, Electric Light & Power common, 37; do. preferred, 88; Consolidated Gas 6s, 101; do. 4½s, 95½; Seaboard Company common, 18; do. second preferred, 38½ to 39; Seaboard 4s, 90 to 89½; do. do. certificates, 83½ to 83¼; do. 10-year 5s, 100; do. adjustment 5s (when issued), 70½; Consolidated Cotton Duck preferred, 21; Mt. Vernon-Woodberry Cotton Duck 5s, 81½ to 81; G-B-S, Brewing common, 2¼; do. incomes, 14.

American Bonding sold from 71¼ to 71; Union Trust, 70; Fidelity & Deposit, 159½; United States Fidelity & Guaranty, 132.

Other securities were traded in thus: Houston Oil common, 9 to 8¾; Fairmont & Clarksburg Traction 5s, 95½ to 96½; Maryland Electric 5s, 98 to 99; Maryland & Pennsylvania incomes, 63 to 65; Baltimore City 3½s, 1928, 98½; West Virginia Central 6s, 102; Baltimore City 3½s, 1980, 93¾; Consolidation Coal, 99½ to 100; Atlantic Coast Line new 4s, certificates, 88½; Carolina Central 4s, 94½ to 94; Norfolk & Portsmouth Traction 5s, 84; Maryland & Pennsylvania Railroad stock, 25; Merchants & Miners' Transportation Co., voting trust, 74½; North Carolina 4s, 99¾; Central Railway extension 5s, 111; Baltimore City Passenger 5s, 101; City & Suburban (Baltimore) 5s, 108¼; City & Suburban (Washington) 5s, 103; Knoxville Traction 5s, 106½; Northern Central Railway stock, 104¾ to 105¼; Anacostia & Potomac 5s, 103; Norfolk Railway & Light 5s, 98½; Coal & Iron Railway 5s, 102½; Charleston Consolidated Electric 5s, 90½; Savannah, Florida & Western 5s, 112½; Newport News & Old Point 5s, 95.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended
September 15, 1909.

Railroad Stocks.	Par.	Bid.	Asked.
At. Coast of Conn.	100	315	328
Ga. South. & Fla.	100	33	40
Ga. South. Fla. 1st Pfd.	100	96	98
Ga. South. & Fla. 2d Pfd.	100	71	78
Maryland Elec. Rys.	100	37½	
Seaboard Co. Con.	100	18	19
Seaboard Co. 1st Pfd.	100	75	77
Seaboard Co. 2d Pfd.	100	28½	32
United Rys. & Elec. Co.	50	13	13½
Western Maryland.	50	1	2½

Bank Stocks.	Par.	Bid.	Asked.
Citizens' Nat. Bank.	10	39	40
Com. & Farm. Bank.	100	85	110
Drovers & Mech. Bank.	100	218	
First Nat. Bank.	100	140	
Maryland Nat. Bank.	20	21	
Merchants' Nat. Bank.	100	165	171
Nat. Bank of Baltimore.	100	125	126
Nat. Howard Bank.	10	13	
Nat. Marine Bank.	10	40½	
Nat. Mechanics' Bank.	20	40	31
Nat. Union Bank of Md.	100	123	
Old Town Bank.	10	125½	
Third Nat. Bank.	100	115	140

Trust, Fidelity and Casualty Stocks.

Amer. Bonding Co.	25	71¼	
Continental Trust.	100	212	215
Fidelity & Deposit.	50	159	160
Maryland Trust Pfd.	100	99	105½
Mercantile Trust & Deposit.	50	147	150
Title Guar. & Trust.	100	132½	
Union Trust.	50	70	72
United Surety.	100	130	

Miscellaneous Stocks.	Par.	Bid.	Asked.
Ala. Con. Coal & Iron.	100	39	35
Ala. Con. Coal & Iron Pfd.	100	80	89
Con. Cot. Duck Com.	50	6	7
Con. Cot. Duck Pfd.	50	20½	
Con. Gas, E. L. & P. Pfd.	100	36½	40
Con. Gas, E. L. & P. Pfd.	100	87½	
Consolidation Coal.	100	99	100
G-B-S, Brewing Co.	100	2	3
George's Creek Coal.	100	94	96
Mer. & Miners' Transp.	100	74½	

Railroad Bonds.	Par.	Bid.	Asked.
Atl. & Charlotte Ext. 4½s.	100	99	
Atlantic Coast Line 1st 4s, 1953.	100	95	99
Atlantic Coast Line 4s, Cfs.	100	88½	89½
Atlantic C. L. Con. 4s, Cfs.	100	92	
Atlantic C. L. Con. 5s, Cfs.	100	105	
Atlantic C. L. Con. 4s, Cfs.	100	85	88
Baltimore & Annap. S. L. 5s.	100	92½	

Balto. & Harrisburg 5s, 1938.	100	109
Balto. & Harrisburg Ext. 5s, 1938.	104	
Carolina Central 4s, 1949.	100	94½
Charlotte, Col. & Aug. 7s, 1910.	103	
Coal & Iron Railway 5s, 1920.	102½	103
Col. & Green. 1st 6s, 1916.	111	
Georgia & Alabama 5s, 1943.	105½	106
Georgia, Car. & North. 1st 5s, 1929.	105	
Georgia Pacific 1st 6s, 1922.	107½	
Georgia, South. & Fla. 1st 5s, 1945.	108	
Macon, Dublin & Savannah 5s.	95	96
Md. & Penna. 4s, 1951.	91	
Piedmont & Cumb. 1st 5s, 1911.	99	
Potomac Valley 1st 5s, 1911.	107½	108
Raleigh & Gaston 5s.	112	
Rich. & Danville Gold 6s, 1915.	105	
Rich. & Danville Deb. 5s.	108	109½
Sav. E. & West. 5s, 1934.	112	112½
Seaboard Air Line 4s, 1950.	89½	89¾
Seaboard 4s, Cfs.	83¼	83½
Seab. Air Line 5s, 10-Year, 1911.	99½	100
Seaboard Air Line 5s, 3-Year.	99½	99½
Seaboard Adjustment 5s.	70¾	71
Silver Spgs., Ocala & Gulf 4s, 1918.	97	98
Suffolk & Carolina 5s, 1952.	95	99
Virginia Midland 2d 6s, 1911.	103	
Virginia Midland 3d 6s, 1916.	103	
Virginia Midland Trch. 5s.	107	
Virginia Midland 5th 5s, 1929.	107	
Virginia Midland Gen. Mtg. 5s.	110½	111½
Washington Terminal 3½s.	95½	
Washington & Vandemere 4½s.	97½	
Western Maryland 4s, 1952.	85	85½
Western N. C. Con. 6s, 1914.	107½	109
West Va. Cent. 1st 6s, 1911.	101½	102
WIL. Col. & Aug. 6s, 1910.	100½	

Street Railway Bonds.	Par.	Bid.	Asked.
Anacostia & Potomac 5s, 1949.	102½	103	
Anacostia Con. Street Railway 5s.	105	105½	
Balto. City Pass. 5s, 1911.	100½	101	
Balto., Sp. Pt. & C. 4½s.	93½	94½	
Balto. Traction 1st 5s, 1929.	111		
Central Ry. Con. 5s (Balto.), 1932.	111		
Central Ry. Ext. 5s (Balto.), 1932.	111½		
Charleston Con. Elec. 5s, 1909.	90½	92½	
Citizens' R. L. & P. of N. M.	85		
City & Suburban 5s (Balto.), 1922.	108½		
City & Suburban 5s (Wash.), 1948.	103½		
Fair. & Clarke Trch. 5s.	96	97	
Knoxville Traction 1st 5s, 1928.	106½	107	
Lake Roland Elevated 5s, 1942.	112		
Macon Ry. & Lt. 1st Con. 5s, 1953.	95	96	
Maryland Electric Railways 5s.	98½	99	
Memphis Street Railway 5s.	99	99½	
Metropolitan 5s (Wash.), 1925.	107		
Newport News & Old Pt. 5s, 1938.	95	96	
Norfolk & Ports. Traction 5s.	83¾	84½	
Norfolk Railway & Light 5s.	98½	98¾	
Norfolk Street Railway 5s, 1944.	107		
United Railways 1st 4s, 1949.	87½	87¾	
United Railways Inc. 4s, 1949.	88½	88¾	
United Railways Funding 5s.	85½		

Miscellaneous Bonds.	Par.	Bid.	Asked.
Atlanta Gas 1st 5s, 1947.	102½	105	
Consolidated Gas 6s, 1910.	101	101½	
Consolidated Gas 5s, 1939.	111½	112	
Consolidated Gas 4½s.	93½	95	
Fairmont Coal 1st 5s.	94½	97	
G-B-S, Brewing 1st 4s.	45	46	
G-B-S, Brewing 2d 4s.	14		
Mt. Vernon-Woodby Cot. Duck 5s.	81		
United Elec. Lt. & P. 4½s.	93	94	

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for
Week Ending September 13.

	Par.	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	70	74	
Aiken Mfg. Co. (S. C.)	75	76	
American Spinning Co. (S. C.)	150		
Anderson Cotton Mills (S. C.)	50	59	
Arkwright Mills (S. C.)	100	100½	
Augusta Factory (Ga.)	65	70	
Avondale Mills (Ala.)	115	125	
Belton Mills (S. C.)	112	121	
Bibb Mfg. Co. (Ga.)	114	109	
Brandon Mills (S. C.)	128	130	
Cabarrus Cotton Mills (N. C.)	128	130	
Chadwick-Hoskins Mfg. Co. (N. C.)	100		
Chadwick-Hoskins Mfg. Co. (N. C.)	100		
Chiquola Mfg. Co. (S. C.)	145		
Clifton Mfg. Co. (S. C.)	106		
Clifton Mfg. Co. (S. C.) Pfd.	99	101	
Clinton Cotton Mills (S. C.)	110		
Columbus Mfg. Co. (Ga.)	93		
Courtenay Mfg. Co. (S. C.)	97	100	
Dallas Mfg. Co. (Ala.)	97	105	
Darlington Mfg. Co. (S. C.)	72½	75	
Drayton Mfg. Co. (Ala.)	100		
Eagle & Phenix Mills (Ga.)	135		
Easley Cotton Mills (S. C.)	158	162	
Enoree Mfg. Co. (S. C.)	58	66	
Enoree Mfg. Co. (S. C.) Pfd.	95	98½	
Enterprise Mfg. Co. (Ga.)	80		
Exposition Cotton Mills (Ga.)	240		
Gaffney Mfg. Co. (S. C.)	79		
Gainesville Cotton Mills (Ga.)	68		
Granby Cot. Mills (S. C.) 1st Pfd.	50		
Granville Mfg. Co. (S. C.)	160	165	
Greenwood Cotton Mills (S. C.)	60	67½	
Grendel Mills (S. C.)	112	114½	
Henrietta Mills (N. C.)	175		
King Mfg. Co., John P. (Ga.)	95	100	
Lancaster Cotton Mills (S. C.)	125	146	
Lancaster Cotton Mills Pfd.	95	98	
Langley Mfg. Co. (S. C.)	96	100	
Laurens Cotton Mills (S. C.)	120	135	
Limestone Mills (S. C.)	150	190	
Lockhart Mills (S. C.)	78	90	
Lockhart Mills Pfd.	98	100	
Loray Mills (N. C.) Pfd.	95	97½	
Marlboro Cotton Mills (S. C.)	185		
Mayo Mills (N. C.)	97	105	
Mills Mfg. Co. (S. C.)	97	105	
Mills Mfg. Co. (S. C.) Pfd.	109		
Monaghan Mills (S. C.)	118		
Monarch Cotton Mills (S. C.)	102	110	
Newberry Cotton Mills (S. C.)	120	140	
Norris Cotton Mills (S. C.)	119	122	
Olympia Cot. Mills (S. C.) 1st Pfd.	73	87½	
Orangeburg Mfg. Co. (S. C.) 1st Pfd.	80	98	
Gaffney Mfg. Co. (S. C.)	77	103½	
Orr Cotton Mills (S. C.)	95		
Pacolet Mfg. Co. (S. C.)	105		
Pelzer Mfg. Co. (S. C.)	150	160	
Piedmont Mfg. Co. (S. C.)	172	175	
Pacolet Mfg. Co. (S. C.) Pfd.	95	100	
Poe Mfg. Co. (S. C.)	152	160	
Richland Cot. Mills (S. C.) 1st Pfd.	60		
Raleigh Cotton Mills (N. C.)	100	105	
Roanoke Mills (N. C.)	127	160	
Saxon Mills (S. C.)	127		
Sibley Mfg. Co. (Ga.)	62½	65	
Spring Mills (S. C.)	130	140	
Springstein Mills (S. C.)	100		
Trion Mfg. Co. (Ga.)	250		
Union-Butt Mills (S. C.)	140		
Union-Butt Mills (S. C.) 1st Pfd.	70	72	

Victor Mfg. Co. (S. C.)	127	131
Warren Mfg. Co. (S. C.)	93½	96
Warren Mfg. Co. (S. C.) Pfd.	106	
Washington Mills (Va.)	28	
Washington Mills (Va.) Pfd.	106	109
Whitney Mfg. Co. (S. C.)	120	140
Williamson Mills (S. C.)	114	116
Wiscasset Mills (N. C.)	125	135
Woodruff Cotton Mills (S. C.)	135	
Woodside Cotton Mills (S. C.)	96	100
Woodside Cot. Mills (S. C.) Pfd.	95	98

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C.,
for Week Ending September 13.

	Bid.	Asked
Abbeville Cotton Mills (S. C.)	75	75
Aiken Mfg. Co. (S. C.)	75	85
American Spinning Co. (S. C.)	125	..
Anderson Cotton Mills (S. C.)	50	54
Arcadia Mills (S. C.)	95	..
Arkwright Cotton Mills (S. C.)	100	..
Augusta Factory (Ga.)	65	70
Avondale Mills (Ala.)	116	..
Belton Mills (S. C.)	120	..
Brogton Mills (S. C.)	37	..
Cannon Mfg. Co. (N. C.)	135	..
Cabarrus Cotton Mills (N. C.)	130	135
Chiquola Mfg. Co. (S. C.)	150	..
Clifton Mfg. Co. (S. C.)	106	..
Clinton Cotton Mills (S. C.)	105	..
Columbus Mfg. Co. (Ga.)	93	100
Courtenay Mfg. Co. (S. C.)	96	96
Dallas Mfg. Co. (Ala.)	99	..
Darlington Mfg. Co. (S. C.)	72	..
Converse Co., D. E. (S. C.)	105	..
Drayton Mills (S. C.)	95	100
Eagle & Phenix Mills (Ga.)	117	..
Easley Cotton Mills (S. C.)	158	162
Enoree Mfg. Co. (S. C.)	52	62
Enoree Mfg. Co. (S. C.) Pfd.	90	100
Enterprise Mfg. Co. (Ga.)	75	..
Exposition Cotton Mills (Ga.)	1	..
Gainesville Cotton Mills (Ga.)	60	65
Glenwood Cotton Mills (S. C.)	122	..
Gluck Mills (S. C.)	92	95
Grantville Mfg. Co. (S. C.)	155	165
Grendel Mills (S. C.)	112	115
Hartsville Cotton Mill (S. C.)	150	..
Henrietta Mills (N. C.)	150	165
Inman Mills (S. C.)	106	..
Innacester Cotton Mills (S. C.)	113	126
Lancaster Cot. Mills (S. C.) Pfd.	77	..
Laney Cotton Mills (S. C.)	93	100
Laurens Mills (S. C.)	125	..
Limestone Mills (S. C.)	150	..
Lockhart Mills (S. C.)	80	..
Lockhart Mills (S. C.) Pfd.	98	..
Loray Cotton Mills (N. C.) Pfd.	92	96
Marlboro Cotton Mills (S. C.)	83	..
Mills Mfg. Co. (S. C.)	92	98
Molohon Mfg. Co. (S. C.)	105	..
Monaghan Mills (S. C.)	117	122
Monahan Cotton Mills (S. C.)	115	..
Newberry Cotton Mills (S. C.)	115	..
Ninety-Six Cotton Mills (S. C.)	135	..
Norris Cotton Mills (S. C.)	115	..
Orr Cotton Mills (S. C.)	100	116
Pacelot Mfg. Co. (S. C.)	98	100
Pelzer Mfg. Co. (S. C.)	..	158
Piedmont Mfg. Co. (S. C.)	175	..
Poe Mfg. Co., F. W. (S. C.)	150	..
Saxon Mills (S. C.)	125	..
Siler Mfg. Co. (S. C.)	127	65
Spartan Mills (S. C.)	275	..
Tucupau Mills (S. C.)	275	..
Union-Buttalo (S. C.) 1st Pfd.	77	80
Union-Buttalo (S. C.) 2d Pfd.	20	25
Victor Mfg. Co. (S. C.)	125	130
Warren Mfg. Co. (S. C.)	92	96
Warren Mfg. Co. (S. C.) Pfd.	..	106
Washington Mills (Va.)	20	..
Whitney Mfg. Co. (S. C.)	120	..
Woodruff Cotton Mills (S. C.)	135	..
Woodruff Cotton Mills (S. C.)	97	..
Woodside Cotton Mills (S. C.)	94	..
Watts Mills (S. C.)	82	85
Williamson Mills (S. C.)	115	..

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T. K. SANDS, 2d Vice-President and Cashier.
H. A. WILLIAMS, Assistant Cashier.
L. D. CRENSHAW, Jr., Trust Officer.

In aiding the development of legitimate business enterprises, this bank believes that it performs a required duty, and to this end offers the services of a live, progressive bank, conservatively managed.

We Make a Specialty of Buying
Southern Municipal Bonds
WE PAY THE HIGHEST MARKET PRICES
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Frequently find it necessary to have
BANKING FACILITIES in addition
to those offered by local banks.

FIRST NATIONAL BANK OF RICHMOND, VA.

With assets of nine million dollars, offers
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The Delaware Fidelity Trust Co.

Home Office—Dover, Delaware

Is especially interested in the development of the South and will assist substantial enterprises requiring additional capital.

Announces the opening of a branch office in the city of Philadelphia, where arrangements may be made for the organization and consolidation of corporations, registration of stock, and for acting as trustee in bond issues.

Correspondence solicited.

THE DELAWARE FIDELITY TRUST CO.

1415 Arch Street, Philadelphia, Pa.

The National Exchange Bank

OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.

Capital, \$1,000,000

July 15, 1908, Surplus and Profits, \$671,631.60

OFFICERS:

WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
WM. J. DELCHER, Asst. Cashier.
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This Bank owns and offers \$100,000 Bonds of a well managed Public Utility Corporation in a prosperous and growing Southern City.

Price, par and interest, to net 6%.

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Pioneer Surety Co. of the South.
Becomes Surety on bonds of every description.

AGENTS IN ALL PRINCIPAL CITIES

HARRY NICODENUS, EDWIN WARFIELD,
Sec'y and Treas. President.

"AMERICAN"

STRENGTH
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is QUALITY

Recent government tests show

"AMERICAN" PURE MANILA ROPE to be from 10% to 25% stronger than the standards set by the United States Government for manila ropes of various sizes.



"AMERICAN" ROPE is most economical because it gives the longest service and the greatest value for the money invested.

Specify "AMERICAN" on your orders and turn rope expense into rope economy.

WRITE for our booklet "ROPE," with samples and prices.

THE AMERICAN MFG. CO.

MANILA . . . SISAL . . . JUTE CORDAGE

65 WALL STREET

NEW YORK, N. Y.

TRANSMISSION ROPE

the shipments for the past year aggregated \$10,278,456, an increase of 15 per cent. over the previous year.

President Isaac M. Scott also says: "The fact that dividends could be maintained at the old rate on the increased capital, your plant kept up to the highest state of efficiency and a substantial addition made to the surplus account in a year of stress such as the one we have just gone through will doubtless be as gratifying to the shareholder as it is to the board of directors and the management." He also notes that lower prices prevailed, as well as a less than normal demand for goods.

In conclusion he says: "The outlook for the coming year can only be regarded as encouraging, a heavy demand for all kinds of steel goods being almost assured. It is fair to assume that your company will get its full share of going business, and as your plant is now equipped for turning out a more profitable line of goods than ever before, it is only reasonable to expect a corresponding improvement in the way of increased earnings."

Bank Reports.

The First National Bank of Birmingham, Ala., reports September 1, 1909, loans and discounts, \$5,738,564; total cash, \$2,524,843; capital stock, \$1,000,000; surplus and profits, \$791,452; circulation, \$900,300; total deposits, \$7,026,394; total resources, \$9,808,147; W. P. G. Harding, president; J. H. Woodward and J. H. Barr, vice-presidents; Thomas Hopkins, cashier, and F. S. Foster and Thos. Bowron, assistant cashiers; J. E. Ozburn, secretary savings department.

The First National Bank of Richmond, Va., reports September 1, 1909, loans and discounts, \$6,612,431; cash and due from banks, \$1,584,563; capital, \$1,000,000; surplus fund, \$800,000; undivided profits, \$135,027; circulation, \$955,250; total deposits, \$6,001,328; total resources, \$9,305,617; John B. Purcell, president; John M. Miller, Jr., vice-president and cashier; Chas. R. Burnett, J. C. Joplin, W. P. Shelton and Alex. F. Ryland, assistant cashiers.

Texas to the Country.

With characteristic enterprise Mr. W. W. Dexter, editor of the *Texas Bankers' Journal* of Houston, Tex., made the September issue of his publication an edition in honor of the Chicago convention of the American Bankers' Association. Both the advertising and reading pages of the issue are full of interesting information about Texas and the opportunities there for financiers.

FINANCIAL CORPORATIONS.

Ark., Bentonville.—The First State Bank has filed articles of incorporation; capital \$10,000; incorporators, J. G. McAndrews, president; J. D. Covey, vice-president; W. A. Dickson, secretary-treasurer; D. W. Peel, J. D. Bryan and G. P. Jackson.

Ark., Cache.—Chartered: The Bank of Cache; capital \$6000; J. H. Hamilton, president, and G. D. Johnson, secretary-treasurer.

D. C., Washington.—The District National Bank is to begin business September 20; Robert N. Harper, president; J. Kenyon Miller, vice-president; Henry B. F. Macfarland, second vice-president, and W. S. Hoge, third vice-president; directors, Alexander T. Hensley, H. B. F. Macfarland, president Board of Commissioners of the District of Columbia; J. M. Kenyon, Ernest M. Merrick, merchant; W. P. Lipscomb, R. N. Harper, president Leesburg Trust Co.; Robert Lee O'Brien, E. H. Daniel, W. S. Hoge, J. S. Tyree, Sidney West, Martin Weigand, Dr. J. J. Richardson, H. Clinton Smith, C. G. Sloan, Jas. M. Hoge and others.

Fla., De Land.—The First National Bank of De Land has been approved; capital \$50,000; W. E. Sullivan, V. W. Gould, B. E. Prevatt, John Cranor and Wm. M. Fields, Jr., organizers.

Ga., Columbus.—Chartered: The Home

Building and Savings Association has been chartered by R. E. Dismukes, Marshall Morton, L. W. McPherson, R. C. Jordan, W. De L. Worsley, C. W. Mizell, S. M. Dixon, E. C. Mayo, R. C. Crane and J. D. Massey.

Ga., Vienna.—The First National Bank, capital \$50,000, has organized with Thomas H. Gregory, formerly of Unadilla, president; directors, D. A. Taylor, M. E. Ruslin, Ed Howell, L. L. Woodward, T. H. Gregory and L. B. Thompson, all of Vienna, and W. B. Nichols of Unadilla.

Ky., Elizabethtown.—Reports state that O. P. Trent, cashier of the Franklin Bank of Louisville, Ky., is interested in the establishment of a national bank and trust company at Elizabethtown with \$50,000 capital.

Ky., Greenville.—H. L. Stum of Athens, Tenn., is reported organizing the Farmers' State Bank with \$20,000 capital.

Md., Baltimore.—Official: The West Baltimore Savings Bank chartered; capital \$10,000; incorporators, Daniel A. Leonard, 329 Old Frederick Rd.; George H. Poehlman, 942 Frederick Ave. extended; George J. Hafer, 2532 West Baltimore St.; Arthur C. Montell, Louis W. Freund, Jacob Hann, Jr., and Victor G. Bioede, and J. C. Gorman, Catonsville, Md., and John F. Sippel, 402 American Bldg., Baltimore, Md.

Md., Laurel.—The Patuxent Savings Bank of Prince George's County has been incorporated with \$10,000 capital by Thomas M. Lanahan of J. William H. Dorsey, J. W. Owings Disney, William G. Orr, Frank E. Little, Edward B. Powell, Samuel H. Hopkins, Matthew S. Hopkins, C. Russell Hinchman, Henry H. Smallwood and J. Nicholas Miller. Officers, Thomas M. Lanahan, president; J. Nicholas Miller, vice-president, and Harry F. Frost, cashier. Business is to begin October 4.

Mo., Martin City.—The Martin City Bank has filed articles of incorporation; capital \$10,000. Local capital is said to be interested.

Mo., Baden, P. O. St. Louis.—A new bank, capitalized at \$100,000, will, it is stated, begin business September 20 at 3200 North Broadway with M. W. Muntzell, cashier; F. H. Twilman and Ferd. Hartwig, vice-presidents; directors, William H. Schewe, S. B. Jeffries, J. F. Wiedemeyer, W. E. Godfrey, William Oepts, Charles Buss and E. F. Burgdorf.

Mo., St. Louis.—The North St. Louis Savings Trust Co., capital \$100,000, has been incorporated by Louis Boeger, Joseph M. Ebeling, Herman Hannibal, George P. Hoffmann, William Knollman, Henry H. Aberschelp, Charles W. Owen, Edward Hancock, Alfred W. Pauley, Gerhard A. Pauley, Louis C. Rohlfing and William Samel.

N. C., Hendersonville.—Official: The People's National Bank of Hendersonville chartered; capital \$150,000; incorporators, John H. Carter, H. S. Anderson, U. G. Staton, M. C. Toms, C. F. Toms, W. F. Edwards, McD. Ray and P. H. Walker.

N. C., Mooresville.—The First National Bank of Mooresville has been authorized to begin business; capital \$50,000; George C. Goodman, president; W. C. Johnston, vice-president; C. P. McNeely, cashier; C. F. Melcher, assistant cashier. This is a conversion of the Bank of Mooresville.

Okla., Marlow.—Chartered: The Guaranteed State Bank; capital \$25,000; incorporators, R. T. Lyle, T. P. Martin, Jr., G. D. Brown and A. T. Martin of Marlow, R. D. Benson of Fort Worth, Tex.

Okla., Oklahoma City.—The Conklin Land & Investment Co. has filed its charter; capital \$10,000; incorporators, D. K. Pope, Oklahoma City; T. A. Conklin and E. Y. Conklin of Charlotte, N. C.

Okla., Oklahoma City.—The Tradesmen's State Bank is reported to have begun business; capital \$50,000; Frank J. Wykoff, president; J. C. McClelland, vice-president, and J. E. Munhall, cashier.

Okla., Ponca City.—Chartered: The Oklahoma State Bank; capital \$25,000; incorporators, E. C. Van Petten, H. E. Roberts and B. G. Van Petten of Ponca City, N. V. Van Petten of Pond Creek.

Okla., Ponca City.—The conversion of the First National Bank of Ponca City into the Oklahoma State Bank of Ponca City has been approved; capital \$20,000; E. C. Van Petten, president; N. V. Van Petten, vice-president, and H. E. Roberts, cashier.

Okla., Tahlequah.—Chartered: The Wagner Investment Co.; capital \$10,000; Natt T. Wagner of Tahlequah and E. S. Emmert and D. N. Pink of Muskogee are the incorporators.

S. C., Clinton.—Official: The Citizens' Building and Loan Association has been granted a commission; capital \$50,000, to be

paid in monthly instalments, with privilege of increasing to \$100,000; directors, A. V. Martin, president; W. B. Farr, vice-president; B. H. Boyd, secretary and treasurer; T. D. Copeland, L. B. Dillard, P. S. Jeans, H. D. Henry, M. J. McFadden and J. D. Bell.

S. C., Keowee.—The Keowee Bank is reported to have begun business with \$25,000 capital. J. P. Carey is president and Oliver Smith, cashier.

S. C., Sharon.—The First National Bank of Sharon has been authorized to begin business; capital \$25,000; J. H. Saye, president; J. J. Rainey, vice-president, and A. M. Haddon, cashier.

Tenn., Yuma.—The Cotton Planters' Bank has opened for business; capital \$15,000.

Tex., Austin.—Official: The Union Trust Co. of San Antonio has opened a branch at Austin. J. G. Burney is manager and C. L. Lest cashier.

Tex., Collegeport.—The Collegeport State Bank has been incorporated with \$10,000 capital by Howard N. Sholl, G. M. Magill, Theo Smith and V. R. Haisley.

Tex., Coolidge.—Chartered: First State Bank of Coolidge; capital \$25,000; incorporators, T. L. Wallace, George C. Peterson, D. C. Campbell and others.

Tex., Cooper.—Official: The Farmers' State Bank chartered; capital \$25,000; Dr. O. Smith, president, Cumby, Tex.; J. R. Albright, and L. E. Stell, cashier, Cooper, Tex.

Tex., McLean.—Chartered: American State Bank, capital \$25,000; incorporators, A. P. Clark, Jr., J. N. Freeman, C. W. Kountz and others.

Tex., Richland.—Official: A State bank has been chartered with \$10,000 capital; incorporators, H. W. Williams, J. P. Morris, T. L. Cox, B. B. Barron, Don Parker and Jos. Neesbaum. A press report gives the name as the First State Bank.

Tex., Yoakum.—Organized: The Alamo Life Insurance Co., capital \$100,000. President, William Green, Shiner, Tex.; vice-president, Scott Dillworth, Gonzales; secretary-treasurer, Philip Welhausen, Yoakum; legal adviser, Lieutenant-Governor A. B. Davidson of Cuero.

NEW SECURITIES.

Ala., Columbiana.—Shelby county is considering the question of issuing road bonds. John R. Dyke is clerk Circuit Court.

Ala., Guntersville.—Bids will be received immediately for \$14,000 of 5 per cent. 10-year Marshall county jail warrants. J. H. Carter is judge of probate.

Ala., Montgomery.—Hunt & Cushman of New York have purchased at a premium \$50,000 of 5 per cent. paying bonds.

Ark., Osceola.—Bids will be received until 1.30 P. M. September 15 by L. A. Morris, secretary Board of Education, for \$20,000 of 6 per cent. 20-year school bonds.

Ala., Oneonta.—Blount county contemplates issuing \$120,000 of road bonds; John F. Kelton is chairman board of County Commissioners.

Ark., Pine Bluff.—Reported that Jefferson county has decided to issue \$175,000 of bonds for railway and wagon bridge across the Arkansas River at Little Rock.

Fla., Milton.—Santa Rosa county contemplates issuing \$100,000 of road bonds. Address H. W. Thompson.

Fla., St. Augustine.—The question of holding an election to vote on \$100,000 of sewerage bonds is under consideration.

Ga., Alma.—Official: Authorized \$3000 of 5 per cent. 30-year bonds; denomination, \$500. Address The Mayor.

Ga., Commerce.—Reports state that the \$8000 of 5 per cent. sewerage bonds were purchased by C. W. Hood of Commerce at 100.75.

Ga., Cordele.—An election is to be held October 7 to vote on \$15,000 of 5 per cent. 30-year school-building bonds. J. B. Ryals is Mayor.

Ga., Covington.—Newton county contemplates issuing \$100,000 of road bonds. Joe Z. Johnson is chairman County Court Commissioners.

Ga., Cuthbert.—October 12 an election is to be held to vote on water-works and electric-light-plant bonds.

Ga., Cuthbert.—October 12 an election is to be held to vote on sewer, light and water-works bonds.

Ga., Fort Grimes.—Clay county contemplates issuing bonds for road improvements; amount probably \$100,000; C. N. Bateman, superintendent, clerk Superior Court.

Ga., Hartwell.—Hart county contemplates

issuing \$15,000 of road and bridge bonds. S. H. White is County Commissioner.

Ga., Lavonia.—Voted: \$5000 of 5 per cent. 20-year school bonds.

Ga., Waycross.—It is expected that an election will be held in Ware county some time next year to vote on \$100,000 of road bonds. E. J. Berry is clerk County Commissioners.

Ky., Vanceburg.—An issue of \$4000 of road bonds is contemplated by Lewis county. J. M. Law is county judge.

La., Franklinton.—Washington county will soon issue \$100,000 of road bonds. M. A. Thigpen is clerk of court.

Md., Rockville.—Montgomery county proposes to issue about April 1, 1910, \$25,000 of road bonds; Robert G. Hilton, clerk and treasurer.

Miss., Clarksdale.—An issue of \$500,000 of bonds has been authorized by the Tallahatchie Drainage Commission.

Miss., Gulfport.—The Union Savings Bank & Trust Co. of Cincinnati has been awarded at \$510 premium \$50,000 of 5 per cent. water-works bonds.

Mo., Cartersville.—S. A. Kean & Co. of Chicago are reported to have purchased at \$50 premium \$50,000 of 5 per cent. 20-year water-works bonds.

Mo., Greenwood.—Bids will be received at any time by W. B. Hunt, secretary Board of Education, for \$7500 of 5 per cent. 5-10-year building bonds.

Mo., Greenwood.—Recently voted: \$7500 of schoolhouse bonds.

Mo., Webb City.—The \$5500 of 5 per cent. sewer bonds purchased by N. W. Halsey & Co. of Philadelphia.

N. C., Asheboro.—Randolph county contemplates issuing road bonds. W. J. Armfield, Jr., is County Commissioner.

N. C., Beaver Dam (P. O. Rockingham).—Voted: \$15,000 of road bonds.

N. C., Bethany, P. O. Statesville.—October 8 Bethany township will vote on \$12,500 of bonds in aid of the Statesville Air Line Railroad.

N. C., Canton.—Charles A. Webb & Co. of Asheville have purchased \$25,000 of 6 per cent. 30-year water-works bonds at par.

N. C., Clinton.—Sampson county contemplates issuing \$10,000 of road bonds about January 1, 1910.

N. C., Hendersonville.—Reported that an election is to be held September 25 to vote on sidewalks bonds.

N. C., Lexington.—An election is to be held October 12 to vote on \$100,000 of good-roads bonds. E. A. Rothrock is chairman board of trustees of Lexington township, and A. C. Harris, secretary.

N. C., Marshallville.—The Southern National Bank of Wilmington, N. C., has purchased at par \$10,000 of 5 per cent. school bonds.

N. C., Nashville.—An election is to be held in Nash county October 16 to vote on \$20,000 of road bonds.

N. C., Southport.—Brunswick county contemplates issuing road-improvement bonds in the near future. J. C. Mintz is county engineer.

N. C., Tarboro.—Bids will be received by R. G. Kittrell, secretary of school district, until noon September 27 for \$35,000 of 5 per cent. 30-year school bonds.

Okla., Clinton.—Ed. M. Seamons & Co. have purchased \$100,000 of 6 per cent. 25-year electric-light, sewer, water-works and funding bonds.

Okla., Durant.—John Nuveen & Co. of Chicago have purchased at par \$50,000 of 5 per cent. 20-year improvement bonds.

Okla., Erick.—Reported voted: \$10,000 of electric-light bonds.

Okla., Lawton.—Reported that an election is to be held to vote on \$250,000 of improvement bonds.

Okla., Lone Wolf.—R. J. Edwards of Oklahoma City is reported to have purchased \$45,000 of water and light bonds.

Okla., Muskogee.—An election is to be held in Muskogee county October 5 to vote on \$150,000 of road and bridge bonds. The bonds are already sold on conditions. W. E. Louper is County Clerk.

Okla., Paw-Paw.—Reported that \$20,000 of bonds have been purchased by H. Sakidem of Salisaw.

Okla., Sapulpa.—An election is to be held in Creek county October 6 to vote on \$30,000 of bridge bonds. Abner Bruce is County Clerk.

Okla., Shawnee.—Reported that an election is to be held to vote on \$25,000 of water-works and \$10,000 of fire-department bonds.

Okla., Wagoner.—Reports state that the \$105,000 of 5 per cent. 25-year water, light and

city hall bonds have been awarded at par as follows: Wagoner Water Co., \$50,000; Wagoner Light & Power Co., \$40,000; Citizens' State Bank of Wagoner, \$15,000.

Okla., Woodward.—H. R. Kent, treasurer, will receive bids until October 5 for \$70,000 of 5 per cent. 25-year school bonds.

Okla., Yukon.—An election is to be held to vote bonds for water-works.

Tenn., Elizabethton.—Election is to be held in Carter county October 14 to vote on \$150,000 of road bonds. Address J. R. Burrow.

Tenn., Henning.—C. H. Coffin & Co. of Chicago have purchased \$15,000 of 6 per cent. 30-year school bonds at 101.

Tenn., Madisonville.—If the election to be held in Monroe county September 14 carries, the bonds will be offered in January, 1910. J. J. Howard is chairman.

Tenn., Rogersville.—Bids will be received until 1 P. M. September 17 by the Board of Commissioners of Hawkins county for \$40,000 of 5 per cent. bonds.

Tenn., Rogersville.—Bids will be received by J. R. Sanders, secretary Board of Commissioners of Hawkins county, until 1 P. M. September 17 for \$40,000 of 5 per cent. bonds.

Tex., Angleton.—Voted: \$17,000 of school bonds.

Tex., Austin.—The Attorney-General has approved the following securities: \$25,000 of 5 per cent. Jacksonville Independent School District bonds, \$25,000 of Bowie county road improvement bonds, \$10,000 of 5 per cent. 10-40-year school-district bonds, \$500,000 of Harris county road and bridge bonds.

Tex., Brownwood.—Brooke, Smith & Co. of Brownwood are reported to have purchased the \$100,000 of 5 per cent. 40-year road bonds.

Tex., Brownwood.—An election is to be held in the near future. It is reported, to vote on \$20,000 of water-extension bonds.

Tex., Canadian.—Voted: \$20,000 of school-building bonds.

Tex., Ennis.—October 5 an election is to be held to vote on \$12,000 of 5 per cent. 10-40-year water-works completion bonds.

Tex., Hallettsville.—The Lavaca County National Bank of Hallettsville has purchased at par \$18,000 of 5 per cent. 5-40-year school-building bonds.

Tex., Hempstead.—Precinct No. 1, Waller county, is to vote on \$25,000 of road bonds. J. D. Harvey is County Judge.

Tex., Houston.—City has decided to issue \$100,000 of 4½ per cent. 30-year street-paving bonds. No election will be held. Address the Mayor.

Tex., Lewisburg.—All bids received September 4 for the \$7000 of 5 per cent. 5-30-year school bonds were rejected.

Tex., Midlothian.—Defeated: \$75,000 of road bonds.

Tex., Princeton.—Ulen, Sutherland & Co. of Kansas City are reported to have purchased \$12,000 of 5 per cent. 20-40-year school-building bonds.

Tex., Rowena.—Reports state that the \$7000 of 5 per cent. school bonds have not been sold.

Tex., San Angelo.—October 12 an election will be held to vote on \$15,000 of fire station and City Hall bonds.

Tex., San Marcos.—City will offer in about 30 days \$25,000 of 5 per cent. 40-year high-school bonds. Address J. R. Porter.

Tex., Stamford.—An election is to be held in Jones county October 2 to vote on \$100,000 of courthouse bonds.

Tex., Temple.—Bids will be received until 8 P. M. October 26 by W. Glunth, Mayor, for \$16,000 of 5 per cent. 20-40-year refunding water-works bonds.

Tex., Waxahachie.—October 12 an election is to be held to vote on \$20,000 of water-works and school bonds.

Va., Boydton.—Boydton and Chase City districts, Mecklenburg county, are considering the question of issuing road bonds. Lucius Gregory, supervisor, Chase City, Va.

Va., Buckingham.—Buckingham county contemplates issuing \$10,000 of road bonds.

Va., Christiansburg.—Bids will be received until noon September 30 by John R. Johnson, chairman special water committee, for \$40,000 of 4 per cent. 15-30-year water-works bonds.

Va., Culpeper.—Culpeper county contemplates issuing about January 1 \$25,000 of road bonds; W. E. Coons, clerk.

Va., Jonesville.—Lee county is considering an issue of road bonds. H. C. T. Ewing is County Clerk.

Va., Dinwiddie.—Dinwiddie county will sell during the next 12 months part of an issue of \$102,500 of road bonds. John P. Tucker is chairman of the board.

Va., Lunenburg.—Lunenburg county is considering the question of issuing road bonds. Address John L. Yates.

Va., Orange.—Orange county will offer for sale within the next six months \$25,000 of road-improvement bonds. W. W. Sanford is chairman Board of Supervisors, Madison Run, Va.

Va., Pearisburg.—The Giles County Board is reported to have decided to call an election to vote on \$30,000 of steel bridge bonds.

Va., Roanoke.—An ordinance is to be introduced in the City Council providing for an election December 11 to vote on \$800,000 of street, city hall, fire, water and other improvement bonds.

Va., Spottsylvania.—An election is to be held in Spottsylvania county November 2 to vote on \$100,000 of road bonds. T. A. Harris is Clerk.

Va., St. Elmo.—Alexandria county contemplates issuing \$400,000 of road bonds. E. W. Ball is treasurer at Clarendon, Va.

W. Va., Beckley.—Bids will be received until 6 P. M. September 22 by C. C. Hedrick, city recorder, for \$60,000 of 5 per cent. 10-30-year bonds.

W. Va., Charleston.—Reports state that an election is to be held, probably in November, to vote on \$180,000 of 4½ per cent. 30-year bonds for road improvements in Charleston, Union and Pocahontas districts.

W. Va., New Martinsville.—Voted: \$12,000 of water-works bonds.

At Guntersville, Ala., bids will be received immediately for \$14,000 of 5 per cent. Marshall county jail warrants. Further particulars will be found in the advertising columns.

At Christiansburg, Va., bids will be received until noon September 30 for \$40,000 of 4 per cent. 15-30-year water-works bonds. Further particulars will be found in the advertising columns.

FINANCIAL NOTES.

A report of 345 State banks in Tennessee for the six months ended June 31, 1909, shows total resources of \$82,972,896 and individual deposits \$48,539,819.

A condensed statement of 239 State banks in Virginia at close of business June 23, 1909, shows loans and discounts, \$49,108,443; capital stock paid in, \$11,357,521; surplus fund, \$4,306,319; undivided profits, \$2,864,752; total deposits, \$47,047,722; total resources, \$69,212,935.

CONDENSED REPORT TO COMPTROLLER

The First National Bank of Birmingham, Ala.

ALABAMA'S FIRST MILLION-DOLLAR BANK

WEDNESDAY, SEPTEMBER 1, 1909.

RESOURCES.

Loans and Discounts.....	\$5,738,564.79
Overdrafts.....	189.69
U. S. Bonds and Premiums.....	1,123,000.00
State of Alabama Bonds....	179,550.00
Other Stocks and Bonds....	242,000.00

CASH.

In Vault.....	\$ 922,061.00
With Banks....	1,552,782.41
With U. S. Treasurer....	50,000.00

\$2,524,843.41

\$9,808,147.89

LIABILITIES.

Capital Stock.....	\$1,000,000.00
Surplus and Profits.....	791,452.92
Circulation.....	900,300.00

DEPOSITS.

Individual....	\$6,217,401.47
Bank.....	722,526.68
United States..	86,466.82

\$7,026,394.97

\$9,808,147.89

Officers:

W. P. G. HARDING, President.	J. H. BARR, Vice-President.
J. H. WOODWARD, Vice-President.	THOMAS HOPKINS, Cashier.
F. S. FOSTER, Assistant Cashier.	THOS. BOWRON, Assistant Cashier.
J. E. OZBURN, Secretary Savings Department.	

The First National Bank has been closely identified with the vital interests of Birmingham, commercial, industrial and civic, for twenty-five years, and during the last ten years its activities have covered the entire State of Alabama, and its connections in all parts of the United States make it a National Bank in fact, as well as by charter name.

With its large capital and surplus, conservative directorate, progressive management, ample equipment and central location, it is prepared to handle satisfactorily all business entrusted to it, and solicits accounts from responsible firms, corporations and individuals who may desire to extend their banking facilities.

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offers at par and accrued interest \$500,000 worth of twenty-year, first mortgage, 6 per cent. gold bonds, in denominations of \$100, \$500 and \$1000; subscriptions paid in full or one-fifth cash and balance quarterly; this offer subject to prior sale. (Total authorized bond issue \$3,000,000.)

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TRUST DEEDS constituting the first mortgage on 1768 acres of valuable cement land, 10,017 acres of very rich coal lands, perpetual lease on 4000 acres gas and oil lands, large dock and storage property in Mobile, Alabama, and improved steamboats and barge line, etc., to the value of \$4,775,000.

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trustee for these securities, hold all these properties in trust for the bondholders, and money from sale of bonds can only be used for improvement of property.

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to participate in the earnings of the company. With each one hundred dollar (\$100) bond we will give one share of common stock, par value \$100, fully paid and non-assessable. This offer is subject to withdrawal without notice.

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ST. LOUIS, MO.

UNITED STATES OF AMERICA, } IN THE CIRCUIT COURT.
DISTRICT OF SOUTH CAROLINA. }

The International Trust Company of Maryland
vs.

The Anderson Traction Company et al.

In accordance with the provisions of the decree filed in this cause by this Honorable Court, on the 19th day of June, 1909, the undersigned, as Special Master, will offer for sale at public auction, to the highest bidder or bidders, at the front door of the principal office of the Anderson Traction Company, in the City of Anderson, in the State of South Carolina, upon Tuesday the 12th day of October, A. D. 1909, at 12 M.:

All of the Railroad property, consisting of the trolley line now in operation in the City and suburbs of Anderson, and the Interurban trolley line, running from the City of Anderson to the City of Belton, in the County of Anderson as aforesaid, the said trolley lines being now in actual operation in the City of Anderson and on the Interurban line to the City of Belton, together with all the franchises, rights or interests of and including all the equipment, supplies and material owned by the said Anderson Traction Company, or purchased or constructed by the Receivers, for the use and operation of the said Railroad Company, a detailed description of which said property will more fully appear by reference to the said decree for foreclosure and to the pleadings in this action, which said property, so owned by the said Traction Company, includes the Public Park, consisting of 27 acres of land, within the corporate limits of the said City, situated on River Street, and containing the Pavilion and Baseball Grounds. The said property also includes two acres within the City of Anderson, upon which is located the power-house of the Company, the tract being also ample for the construction of several employees' cottages if desired. This property being sold subject to all the terms and conditions contained in said decree, and the purchaser or purchasers being bound thereby.

TERMS CASH

The Special Master will receive no bid on the said property unless at the time of making the bid the bidder shall deposit with him the sum of \$10,000, either in cash or by certified check, as a pledge that such bidder will make good his bid, if, upon being reported, the same be accepted by the Court. If, however, the bid of a purchaser shall be rejected, then the said amount shall be returned to him. The amounts deposited by any unsuccessful bidder or bidders shall be forthwith returned to him or them. The purchaser to pay the undersigned for papers.

For further particulars apply to

J. A. BROCK,

Special Master,

Or SMYTHE, LEE & FROST,

Anderson, S. C.

Complainants' Solicitors, Charleston, S. C.

Sale of Valuable Manufacturing Property by Trustee in Bankruptcy

Pursuant to an order of the Referee in bankruptcy case of the Roanoke Stamping & Enameling Company, Inc., entered on the 20th day of August, 1909, the undersigned, who has been duly appointed trustee in said cause, will offer for sale at public auction, on October 4th, 1909, at 12 o'clock noon, on the premises, situated in Vinton, Roanoke County, Virginia, the following property:

(1) The real estate, buildings, machinery, fixtures and equipment of every description, consisting of about 1.17 acres of ground, with the large building thereon, 100x125 feet, and all machinery and equipment therein, the office building and side track.

(2) A lot of finished and semi-finished ware.

(3) All raw material, consisting of shapes, chemicals, etc.

TERMS OF SALE.

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JAMES A. BEAR,

Trustee in Bankruptcy.

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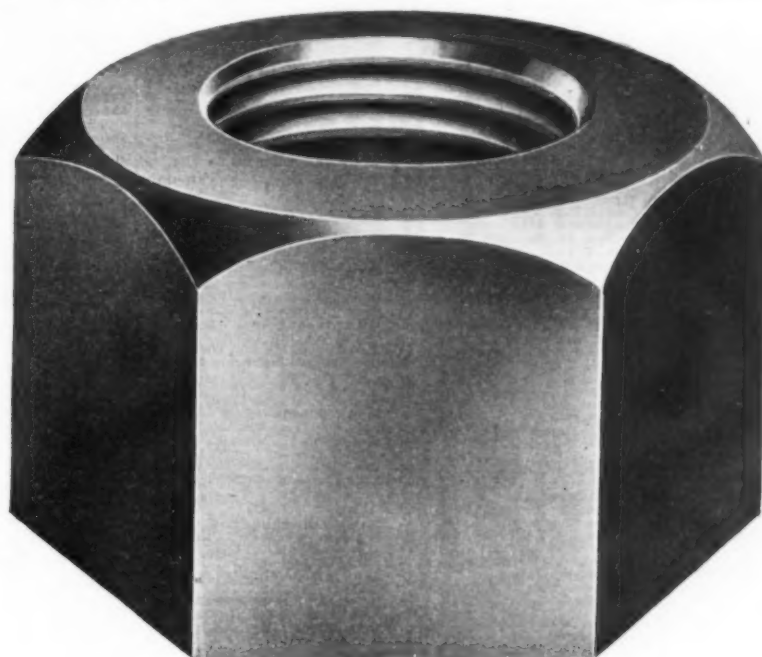
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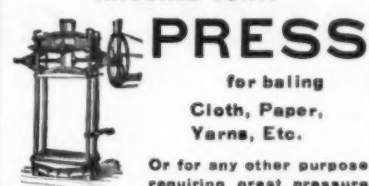
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A HUSTLING salesman with high-class connections and extensive local acquaintance open for engagement as exclusive New York city agent for prominent Western or Southern manufacturer; communications confidential. Address No. 512, care Manufacturers' Record.

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ACCOUNTANT, systematizer, office manager, 15 years' experience, married, sober, honest, competent, familiar with cost-keeping and all up-to-date office methods, now employed, desires a position in Atlantic States; can give first-class references. Address, stating salary, No. 513, care Manufacturers' Record.

BUSINESS OPPORTUNITIES

FOR SALE—Controlling interest in fast-growing incorporated mercantile business; good reason for selling; will sell at a sacrifice. Address "Opportunity," Drawer 118, Winston-Salem, N. C.

WANTED—To sell the controlling interest in an up-to-date foundry, doing a good business and making money; this is a rare chance to the right party. The manager has other interests. Address No. 505, care Manufacturers' Record.

\$3000 TO \$10,000 YEARLY easily made in real estate business; no capital required; we will teach you the business by mail, appoint you special representative of leading real estate company, list with you readily salable properties, co-operate with and assist you to a permanent success; a thorough commercial law course free to each representative. Write for 62-page book free. It will be sure to interest you. The Cross Co., 3165 Reaper Block, Chicago, Ill.

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WANTED—Promoter, \$10,000 necessary, to organize company to manufacture thrice patented device; large profits; use compulsory in many cities and needed throughout world; only business men need apply; references exchanged. Hugh Watson, 510 K St. N. W., Washington, D. C.

ON A CAPITAL OF \$150, with some brains and hustle, an annual income of \$3000 and upwards can easily be made, only occupying part of your time; with small capital an unusual opportunity is offered to build up an independent business handling the Thurman Portable Electric Vacuum Cleaner. Write today for particulars. We also manufacture Portable Wagon House-to-House Cleaners. Genl. Compressed Air and Vacuum Machinery Co., 519-MR, North Taylor Ave., St. Louis, Mo.

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FOR SALE—2000 acres; 1200 acres cultivated; residence, 35 tenant-houses, ginnery, grist mill, cane mill; makes 450 to 500 bales cotton and corn to run the place; 31 mules; full farm equipment; this year's corn and feed crops included in price; good terms; \$52,500. 5000 acres, highly improved; depot on place; makes 500 bales cotton; \$75,000. 4000 acres; embraces townsite; everything new and good; rents for 150 bales cotton; \$80,000. 600 acres; splendid improvements; well located; good terms; \$12,000. 125 acres first-rate land; 40 acres cultivated; timber valuable; no waste; rents two bales cotton; \$750. Write for list of farms. G. H. Waddell, Americus, Ga.

NESTEGGS.—Small or large acreage tracts close to city limits of Houston, Texas. Buy now and await developments; city growing fast; values increasing. Write me. W. V. Graves, 502½ Main St., Houston, Texas.

FOR SALE—640 acres land in Catoosa county, 2 miles from Chocoma Park, 3 miles from Ringgold. Price \$30 per acre. Southern Real Estate Exchange, 825 Georgia Ave., Chattanooga, Tenn.

IF YOU WANT TO BUY ARKANSAS LAND, write S. C. Dowell, Walnut Ridge, Ark., who owns and controls thousands of acres of the finest farming and timbered lands in the State at the lowest prices.

GRAZING AND RANCH LAND in Old Mexico for sale; one million two hundred thirty thousand acres, located in northern part. Price, 50 cents American money per acre. Address P. O. Box 451, El Paso, Texas.

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 24 lines. Allow seven words per line. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year, as follows: 100 lines, 18c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

COME TO LITTLE ROCK; lots \$5 cash and \$3 per month. Write for particulars to Southern Realty & Adjustment Co., Room 15 Kahn Bldg., Little Rock, Ark.

A TEXAS RANCH.—5120 acres in a solid body, adjoining the town of Marfa, in Presidio county, a growing town of 1500 inhabitants, the county seat, on the line of the S. P. R. R.; open prairie land; slightly rolling; can be subdivided and sold for double the price; \$7.50 per acre. For particulars write Humphris Realty Co., Box 18, Marfa, Texas.

TEXAS LANDS.—Texas ags are World's Fair winners. One acre set in ags and one town lot, \$230, payable \$10 down and \$10 per month, without interest; no payments when sick; clear warranty deed in case of death. Local market for fruit. Money back in four years with annual income thereafter for life. If you want to enjoy life in South Texas under your own "vine and fig tree," or make a safe, profitable investment, write for particulars. Agents wanted. Orange groves sold on same terms. E. C. Robertson, 501 Kiam Bldg., Houston, Texas.

MINERAL AND TIMBER LANDS FOR SALE

3000 ACRES of timber land in Monroe county, Tenn., for sale; within 3 miles of Little Tennessee River, 3 miles from Southern R. R., 12 miles above L. & N. R. R., 30 miles south of Knoxville; estimated to cut 20,000,000 feet yellow pine, 9,000,000 feet white oak, 240,000 feet white pine, 300,000 feet hemlock, 150,000 feet yellow poplar, 250,000 feet gum, 260,000 feet hardwood. Address C. M. Niles, Venore, Tenn.

TIMBER FOR SALE.—Are you interested in purchasing timber, timbered lands or farm lands? If so, correspond with C. E. Baker, Cashier Third National Bank, Fitzgerald, Ga.

I HAVE 10,000 acres of timber land, located in Woodruff Co., Ark., on the Iron Mountain and Missouri & North Arkansas railroads; will cut 10,000 feet per acre; will sell on easy terms. Edward Trau, Wapakoneta, Ohio.

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FLORIDA FRUIT LANDS.—100 acres below frost line on beautiful Key Largo, near railroad; 30 acres under cultivation; 3000 lime trees, 400 orange, grape fruit, lemons, etc.; residence, packing and out houses; ideal location for winter home. Can be bought for cash now about half value. R. H. King, Jacksonville, Fla.

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FOR SALE—Five miles from Capitol and University of Texas, my highly-productive, well-improved, black-land farm of 85 acres, with fine stock and all implements. Write for description and price. C. O. Bollmann, Austin, Texas.

FOR SALE—169 acres of productive land, well improved; never-failing water; admirably suited for fruit and stock raising; convenient to churches and school; near depot; 23 miles by rail from Birmingham. N. O. Dozier, Oneonta, Ala., Route 4.

N. C. FARMS FOR SALE.—From 10 to 10,000 acres, adapted to the growing of almost any kind of crop. Some very nice places from 400 to 600 acres. The crops now on them will prove it. Ask for list. State your wants. R. E. Prince, Raleigh, N. C.

FOR SALE—131 acres, on which is a 2-horse farm under cultivation, in Darlington county; small residence, 2 tenant-houses, barn and stables and 1 tobacco barn; good lands; clay subsoil. For lands in Darlington county or for information about this section apply to T. H. Coker, Jr., Hartsville, S. C. Long distance Bell phone No. 37.

FOR SALE—A farm of nearly 1500 acres in Darlington county; small residence of six rooms, 26 tenant-houses, 3-story tobacco pack-house, 15 tobacco barns, other necessary buildings; within 1½ miles from R. R. siding; about 800 acres under cultivation; 300 to 400 acres timber. Write or call on me for price and terms. T. H. Coker, Jr., Hartsville, S. C. Long distance Bell phone No. 37.

2560 ACRES fine cotton land; 2000 acres in cultivation; 18 rent houses; good water at each house; two miles to gln. church and school; six miles to railroad; \$25 per acre; one-third cash; balance to suit. Fluvanna Development Co., Fluvanna, Texas.

FOR SALE.—Improved farm, situated one mile south of the courthouse in Bellville, Tex., containing 574 acres, about 150 acres in sandy land, about one-half of same being sandy loam, balance in black land, some of which is as fine a land as you can find in the State of Texas; improvements worth about \$1000; water-works all over the place; an 8-room cottage with 8 outhouses around same; telephone connections to town; excellent opportunity for dairy farm, stock raising and truck farming; trading propositions considered. Apply to owner, C. K. Langhammer, assistant cashier, Bellville, Tex.

A RARE CHANCE to get a home and enjoy life in the famous Rio Grande Valley, the winter garden of the world, where flowers, fruit and vegetables grow winter and summer; 10, 20, 25, 50 and 100 acre tracts of the finest fruit, truck and grape land at from \$25 to \$50 per acre; fine climate; plenty of water; good transportation facilities. For particulars address Citrus Fruit Development Co., Brownsville, Texas.

FOR SALE—600-acre farm in center of Yankton county, one of the best in South Dakota; offered at 75 per cent. of actual value. J. R. Hanson, Yankton, S. Dak.

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\$100,000 PROFIT MADE the day I make you need to my 9000 acres choice agricultural land; \$12.50 acre. Write for particulars; bound to sell. A. F. Bentley, Owner, Temple, Texas.

IN FAMOUS PEE DEE SECTION, SOUTH CAROLINA, improved farm and truck lands for sale; reasonable terms; splendid truck country; shipping facilities unsurpassed; purchase money can be cleared first year's profits. James D. Evans, Atty., Florence, S. C.

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1500 ACRES on railroad, 65 miles Dallas, underlain, inexhaustible vein fine lignite; no water, slate roof; will support largest mines in Texas. Still & McDonald, Kemp, Texas.

FACTORIES WANTED

BRICK PLANT WANTED.—Haskell, Texas, has a large deposit of fine brick clay practically on railroad track, with forty to fifty towns having no other brick plant to serve; water supply for all purposes unlimited; cheap fuel; labor abundant, reliable and cheap; extensive building enterprises now under way and others projected for immediate and near future; reasonable freight rates going and coming; citizens would take stock in this enterprise with a practical man at its head. For further particulars address T. E. Matthews, Secretary Haskell Board of Trade, Haskell, Texas.

OSAGE CITY, OKLA.—New field for manufacturers just opened last month; has two railroads, and division point; 40 acres glass sand, 95 per cent. pure; brick and pottery shale in abundance, hardwood timber, and one-cent gas for manufacturers; fine well water and on the Arkansas river. Further particulars, write Sadler Investment Co., 412 Security Bldg., Oklahoma City, Okla.

ARE YOU INTERESTED in securing location for industrial enterprises, such as electric light plants, ice factories, broom factory, planing mills, overall factories, etc.? If so, address Homer D. Wade, Secretary Central West Texas Association Commercial Clubs, Stamford, Texas.

QUANAH, the industrial, railroad and manufacturing center of Northwest Texas, the distributing center for 25 counties, offers special inducements for the location of manufacturing and jobbing houses. Quanah is situated in about the center of a section of country which has increased in population and wealth more than fivefold since 1900. Quanah has three railroads and another ready to build; largest cotton, alfalfa and small-grain center in West Texas, and becoming an important manufacturing town. Address Porter Whaley, Secretary Chamber of Commerce, Quanah, Tex.

ABILENE, TEXAS, wants a cotton mill; inexhaustible supply of pure water; steam coal at \$1.50 per ton; splendid shipping facilities; near the geographical center of the State; one-quarter million bales of cotton produced within a radius of 45 miles of the city last year. Address Abilene 25,000 Club, Box 537.

LAWTON, OKLAHOMA, the queen city of the Southwest, metropolis of Southern Oklahoma, offers special inducements for factories and wholesale houses. Lawton is far from any jobbing center; has a vast new tributary country; is a natural distributing point; 7 years old; capital Comanche county; has nine different U. S. Government institutions, each enlarging; five diverging railroads, more building. For special information write Secretary Chamber of Commerce, Lawton, Okla.

PACKING-HOUSE WANTED.—Sweetwater, Texas, is an ideal location for a large packing-house for the following reasons: We have three trunk railroads, with seventeen hundred miles of roads, leading into our town, with all of that mileage covering the greatest area of stock-raising country of any other continuous territory in the United States. We have an ample supply of pure water, abundant and cheap fuel, low tax rate, first-class educational facilities, five churches, and a moral, law-abiding citizenship. Detailed information will be cheerfully given by R. A. Musgrove, Secretary Progressive Club, Sweetwater, Texas.

THE Brownwood, Texas, Commercial Club wants to get a lime plant, and guarantee the very best of lime rock near town, and on railroad, and can interest some home capital. Excellent shipping facilities into a country not near an established plant.

FACTORIES WANTED.—GRAFTON, W. VA., invites correspondence from manufacturers desiring advantageous location. We have to offer 5c gas, free sites, exemption from taxation, cheap coal, pure soft water, unparalleled shipping facilities in all directions, and a number of other special advantages. For information write Secretary of Grafton Board of Trade.

THE Brownwood, Texas, Commercial Club wants to correspond with parties interested in establishing brick plant; the finest shale in the State guaranteed, and excellent shipping facilities into a vast territory not occupied by plant.

ALEXANDRIA, LA., situated in the geographical center of the State, with seven railroads and a navigable river, offers an ideal location for factories. Wanted, specially, a crescenting plant, a handle factory, a chair factory, a wagon factory, a canning factory. Inducements to the right people. Write the Secretary Alexandria Progressive League.

THIRTY COMMERCIAL CLUBS WILL mail pamphlets and information on the fastest developing territory in the Great Southwest. Splendid business openings, manufacturing and distributing opportunities. Agriculture, fruit and truck growing, sack raising, poultry and dairy pursuits offer unrivaled opportunities. Address Secretary N. W. Texas and S. W. Oklahoma Association of Commercial Clubs, Wichita Falls, Texas.

WANTED—Fire brick clay manufacturing plant. Cisno offers an excellent opportunity for a fire brick plant. We have a deposit of clay, thickness of vein, 6 feet, and underlying this clay is a 12-inch vein of coal. This clay has been assayed by J. H. Morehead of Kansas City. Following is an analysis of the clay: Silica, 62.8; alum, 24.2; iron oxide, 2.8; lime, 2/10; magnesia, traces; sulphur, 4/10; water, 9.4; undetermined, 2. Cisno has excellent railroad facilities, two trunk lines, and this deposit of clay is between the two roads. Cisno has a fine water supply and will offer good inducements to manufacturers of any kinds. There is now a great demand for brick and brick tiling in the State. What few plants we have in the State are away behind, and the demand is greater than the supply. For further information address Richard H. McCarty, Secretary Commercial Club, Cisno, Texas.

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FOR SALE—Bargain; modern steam laundry, capacity \$1000 week, in growing Southern city of 75,000 population; now doing \$750 business weekly. For particulars address No. 514, care Manufacturers' Record.

INDUSTRIAL PLANTS... 4 lines. FOR SALE—Gunpowder, wrapping paper mill, near Parkton, N. C. R. R.; plant in running order; orders waiting. For full particulars address Levin Mitchell Estate, Parkton, Md.

FOR SALE—Sawmill completely equipped for manufacturing all kinds of yellow-pine lumber; necessary mules, wagons, lumber carts, traction engine and log-puller; an abundance of yellow-pine timber within a radius of 3 miles; mill in daily operation; ready market for output; a bargain. Address T. R. L. Daughtrey & Co., 206 Dyal-Upchurch Bldg., Jacksonville, Fla.

FOR SALE—Stone factory buildings, machinery, tools, etc., fitted up and used as machine shop and foundry, with corner lot 150x150 feet; also one corner lot 150x150 feet in rear of above and one lot 150x300 feet adjoining; located on B. & O. R. R. midway between Baltimore and Washington. This property could be advantageously utilized for any manufacturing purpose, lumber yard, etc. Apply to or address Wm. A. Fairall, Laurel, Md.

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LEEDS, ALABAMA, on the main lines of the Southern and Illinois Central Railroads, 18 miles from Birmingham, the most rapidly developing town in Alabama. Write for particulars. Alabama Real Estate & Investment Co., C. D. Gilliam, President, Suite 224-54 Brown-Marr, Birmingham, Ala.

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THE CITY OF SHAWNEE, in the heart of Oklahoma, offers special inducements to capitalists, investors, manufacturers and jobbers; cheap natural gas and electric power; free factory sites with splendid switching facilities are available; in the center of 2,000,000 consuming population, which can easily be reached from Shawnee on account of its superior transportation facilities; raw material within the city's gates; an ideal city for manufacturing interests; climate conditions unexcelled and healthfulness unsurpassed; a model city, 13 years old, of 20,000 population; a splendid location for a cotton mill. For further information regarding Shawnee write for handsome booklet, addressing Secretary Chamber of Commerce, Shawnee, Oklahoma.

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SECOND-HAND BAGS, burlap and barrel covers of every kind and any quantity bought and sold. Write for prices. Richmond Bag Co., Richmond, Va.

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WANTED.—If you are interested in pumps of latest and best styles, send to us for book and catalogue. Pumps of all styles and for all uses. The Columbus Steam Pump Works, West Broad street, Columbus, Ohio.

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BANK OF ENSLEY, Ensley, Ala., capital \$100,000, surplus and profits \$50,000. Individual responsibility more than a million dollars. Collections made promptly.

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RAILROAD AND TRACTION TIES, piling and poles; oak and cypress; car lots or more. Jo A. Parker, Manufacturer, Parma, Mo.

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SOUTH CAROLINA short-leaf pine lumber for sale in large quantities. Correspondence invited from Northern purchasers. Address No. 515, care Manufacturers' Record.

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Has been discovered by the interests which control the great transportation lines. Is this significant? And to you?

Let us quote you some investments which will pay your consideration.

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Our sales for years 1905 and 1906 aggregate nearly \$21,000,000. Every tract of timber was sold on our own estimates. We have no "snaps." They are of the past. Bonafide timber investments our specialty. We solicit correspondence with actual timber investors or timber owners (no attention paid to correspondence from agents or brokers) who desire to buy or sell high-class properties in the South, Pacific Coast or Canada. We employ the largest and most competent crew of timber cruisers in United States or Canada.

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We have several valuable tracts of pine and hardwood timber lands for sale. Full description, price and terms will be furnished on application. Write us if interested.

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Vacant Lots Nice Home Timber Lands Mineral Lands Good Farms

Let us help you to get located where your health will always be good.

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For Sale—200,000,000 Feet Original Growth

Yellow Pine Timber and 99,000 acres of land on West Coast of Florida. Apply to

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Nicely-located boundaries of White Oak Timber, close to transportation, suitable for staves or any manufactured article requiring high-grade White Oak Lumber.

W. W. ROBERTSON, Norfolk, Virginia

Factory Site For Sale

In the city of Petersburg, Va., a city of 20,000 inhabitants, located on the Appomattox River, a navigable stream; size of lot, 187x212 feet, with a two-story frame building 150x20 feet; a brick smokestack and engine-room, fronting on a wide street, in a manufacturing locality, with a railroad siding, and four railroads centering at Petersburg, north, south, east and west.

SOUTH SIDE MANUFACTURING CO.,
Petersburg, Va.

Long Leaf Yellow Pine Timber

FOR SALE

14,000 acres, located in Florida. Will cut 4000 feet of lumber or more to the acre. Timber of good quality and good length. 9000 acres in fee simple, balance under unlimited timber lease. Price \$5 per acre. No waste. Good location. Apply to

ALBERT FENDIG & CO.,
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NOTICE TO METAL BUYERS

We are in position to fill orders for different grades of Scrap Metal used by Brass Foundries, Metal Makers, etc., such as Babbitt Metal, Composition Red Brass, Yellow Brass, Brass or Copper Borings, Turnings, Clippings, Aluminum Metals, etc. We also purchase Scrap Metals of all grades.
H. KANDER & CO., Bowling Green, Ohio.

A BONANZAI

FOR THE RIGHT PARTY

A NEWLY-EQUIPPED

BASKET FACTORY

In city of 150,000 population.

Seven railroads. Labor cheap and plentiful. Good supply of logs. Excellent Home Market for Baskets.

Will either sell or lease real estate.

Address BASKET.

Care Manufacturers' Record.

CHECOTAH, OKLAHOMA

The best and safest place for investment in the Southwest. We need and will have within six months—
A Canning Factory, A Steam Laundry, A Brick Yard, A Creamery.
Some local capital furnished if desired.
Get in correspondence with

J. A. PLUMLEY,

Sec'y the Checotah Business Men's League.

A Safe Investment

The Western Home Nursery Co. of Weatherford, Texas, offers \$10,000 of its capital stock. This stock pays 10% to 20% dividends.

Write at once for particulars.

Lumber Yard and Planing Mill for Sale

The best-located Retail Lumber Yard, Planing Mill, Sash and Door Factory in Knoxville, Tenn. Situated on the Southern Railroad and in the center of the city. This property can be bought at a bargain and on the most liberal terms. Address
THE KNOXVILLE LUMBER & MFG. CO.,
Knoxville, Tenn.

HARDWOODS AND PINE FOR SALE

14,000 acres in Hardwoods in North Georgia, near the Southern Railway and Tallulah River; heavy Oaks and Poplars; a bargain. Also 50,000,000 feet of Hardwoods on the Atlantic Coast Line. 155 acres of fine Kaolin Clay Lands on a trunk line. Some fine propositions in Pine in South Carolina and also in Florida. These properties are increasing in value rapidly.
JAS. A. HARLEY, Sparta, Ga.

TIMBER LAND AND STAVES

FOR SALE

6000 acres of finest poplar and white oak timber with coal underneath; also 1,000,000 beer staves, 1/4-1/2 and 1/2-bbl. sizes. Will sell on time. Inspection invited. Titles warranted perfect. Address

LOCK BOX 557, CARLISLE, KY.

Charcoal Iron Furnace

FOR SALE

The entire property of the Southern Car Wheel Iron Co., consisting of a 40-ton Charcoal Iron Furnace, complete, located at Tallapoosa, Ga.; an ore-washing plant, 12 brick charcoal kilns of 60 cords capacity each, sundry timber leases and mining privileges, will be sold by me at Bankrupt Sale on the premises where said furnace is situated, on Friday, October 1, 1909, at 10 o'clock A. M. Further particulars may be had upon application to

A. V. HOWE, Trustee,
Tallapoosa, Ga.

Cypress Mill

FOR SALE

For Sale—Cypress Mill with 14,000,000 feet stumpage; 6,000,000 more can be added; situated on Mississippi River & Louisiana Railroad; facilities can be had for shipping either by rail or water; circular mill, 30,000 daily capacity; complete logging outfit, with two miles of railroad leading into timber. Price, \$5 per M.; terms.

"CYPRESS,"

1912 Maison Blanche, New Orleans.

MONEY WANTED

New double yellow-pine mill, 75,000 capacity; 24-hour system steam drykiln, capacity 50,000 feet daily; up-to-date planing mill with all necessary buildings; good tramroad, 60-pound steel rails, standard oak ties; value of mill and road, \$150,000. In addition to the timber we already own, can secure enough to run 25 years at \$1 or \$1.25 per M. Rare opportunity to make money. We wish to sell stock or borrow \$50,000. After exchanging references we agree to pay your expenses to investigate the proposition.
Address

"INVESTMENT,"

Care Manufacturers' Record.

FOR SALE

Part interest in prosperous Store-fixture Factory in Southern State. Good reasons for selling and splendid opportunity for right party. Address

"FIXTURE,"

Care Manufacturers' Record.

Safe Real Estate Loans

Three to 10 years 6 per cent. to 7 per cent. annual interest, secured by approved Deeds to Secure Debt (under Georgia laws), on improved South Georgia farms, negotiated for careful lenders who seek safe investments and legal securities for surplus money.
ARTHUR S. BUSSEY, Ashburn, Ga.

PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS.

MISCELLANEOUS.

GOVERNMENT PROPOSALS

PROPOSALS FOR LOCOMOTIVE TIRES. Shenvers, Hatchet Wheels, Pinions, Wire Netting, Canvas Belting; Writing, Tracing and Carbon Paper; Notebooks, Calendar Pads, Shipping Tags, Crayons, Ink, Lumber, Piles, etc. Sealed proposals will be received at the office of the General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10:30 A. M., October 4, 1909, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 57) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State street, New York City; 55 National Realty Building, New Orleans, La., and 1086 North Point street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash. F. C. BOGGS, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

TREASURY DEPARTMENT. Office of the Supervising Architect, Washington, D. C., September 13, 1909. Sealed proposals will be received at this office until 3 o'clock P. M. on the 23d day of October, 1909, and then opened, for the construction (including plumbing, gaspiping, heating apparatus, electric conduits and wiring) of the U. S. Postoffice at Columbus, Mississippi, in accordance with drawings and specification, copies of which may be had from the custodian of site at Columbus, Miss., or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

TREASURY DEPARTMENT. Office of the Supervising Architect, Washington, D. C., September 11, 1909. Sealed proposals will be received at this office until 3 o'clock P. M. on the 21st day of October, 1909, and then opened, for the construction (including plumbing, gaspiping, heating apparatus, electric conduits and wiring) of an extension, remodeling, etc., to the U. S. Postoffice at Hoboken, New Jersey, in accordance with drawings and specifications, copies of which may be obtained from the Custodian at Hoboken, N. J., or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

PROPOSALS FOR ELECTRIC LIGHTING System.—Fort Myer, Va., September 14, 1909. Sealed proposals in triplicate will be received at the office of the Constructing Quartermaster until 11 o'clock A. M., October 13, 1909, and then opened, for the interior electric wiring of 41 buildings, including fixtures, and the installation of a complete outside distributing system for the post. Alternate bids are asked for underground and overhead distributing system. Certified check or surety company's guarantee for ten per cent. of the amount must accompany the bid. Plans and specifications will be furnished upon application. A deposit of \$10 must accompany the request to insure their safe return. The Government reserves the right to reject any or all bids. Proposals should be indorsed on the envelopes, "Proposals for Electric-lighting System," and addressed to Captain WARREN W. WHITESIDE, Constructing Quartermaster.

MOULTREVILLE, S. C., August 23, 1909. Sealed proposals in triplicate for dredging channel from Q. M. wharf, Fort Moultrie, S. C., to Charleston Harbor, S. C., will be received here until noon September 27, 1909. Information furnished on application. U. S. reserves right to accept or reject any or all bids. Intending bidders should forward certified check for \$25, payable to Constg. Q. M., to secure plans, etc., said check to be returned when plans, etc., are returned. Envelopes containing proposals should be marked "Proposals for Dredging Fort Moultrie," addressed Constg. Q. M.

NEW BOND OFFERINGS

\$14,000 Marshall County, Ala., Bonds

Bids are invited for the purchase of \$14,000 Marshall county jail warrants to bear interest at 5 per cent., payable annually. Warrants to mature and be paid in ten annual payments. Address:

J. H. CARTER, Judge of Probate, Guntersville, Ala.

\$40,000.00 4% Bonds

The town of Christiansburg, Virginia, will receive bids for \$40,000 water-works bonds until the 29th day of September, 1909, at noon. The bonds will be in the denomination of \$500 each, will bear date from the time of issue, at 4 per cent. interest, payable semi-annually, and are to run for thirty years, with the privilege to redeem after fifteen years.

Bids should be addressed to John R. Johnson, Chairman Special Water Committee, and be accompanied by a certified check for \$100 as a guarantee of good faith.

The town reserves the right to reject any and all bids.
JOHN R. JOHNSON,
Chairman Special Water Committee,
September 8, 1909.

\$70,000 Sweetwater, Texas, Light, Ice and Water Company Bonds

Proposals will be received up to October 9, 1909, for the purchase of the above-named bonds. Said bonds are of \$1,000 denomination, bear six per cent. interest, payable semi-annually, January 1 and July 1, interest payable in gold. Said bonds are secured by a trust deed upon all properties, rights and franchises now owned and hereafter to be acquired by this company. Valuation of these properties at present are as follows:

Water-works system.....\$19,119 12
Power-house and equipment.....51,888 08
Real estate.....40,000 00

Total.....\$111,007 20
Proceeds from the sale of these bonds will be used for extension and betterment of the properties.

For prospectus and full information relating to this bond issue address:

R. SEVERN,
Secretary of Sweetwater
Light, Ice & Water Co.,
Sweetwater, Texas.

\$30,000 Water-Works Improvement Bonds for the City of Coleman, Texas

The City Council of the city of Coleman is now receiving bids for \$30,000 Water-works Improvement Bonds, dated September 1, 1909; due in 40 years, option city after 15 years; 5 per cent. interest, payable semi-annually in Austin, Texas, or St. Louis, option holder.

No bid considered for less than par and accrued interest. The Council reserves the right to reject any and all bids.

Bids should be addressed to:
W. Z. CHAMPION, Secretary.

\$27,000.00 West Point, Miss., Bonds

Sealed bids will be received until 8 o'clock P. M., September 22, 1909, by J. L. Young, City Clerk, for the purchase of \$20,000 bonds issued for street improvements and \$7,000 bonds issued for schoolhouse building. These bonds will bear date October 1, 1909, will bear interest at 5 per cent., payable semi-annually, denominations of \$500. The \$20,000 issue will be payable in 20 years, with option to be paid after 10 years. The \$7,000 issue will be payable in 20 years. Certified check must accompany bid for 10 per cent. of bid. The city reserves the right to reject any and all bids.

B. Y. RHODES,
Mayor.

PAVING

Notice to Contractors

Sealed proposals for the grading, paving, draining and curbing of the following streets and avenues in the City of Meridian, to wit: 22d avenue between 9th and 14th streets, 14th street between 22d and 23d avenues, 23d avenue between 7th and 20th streets, 26th avenue between 5th and 14th streets, 7th street between 23d and 40th avenues, 84th street between 22d and 35th avenues, 35th avenue between 7th and 20th streets, 6th street between 21st and 16th avenues, 16th avenue between 6th and 14th streets, 14th street between 16th and 12th avenues. Will be received by the undersigned at the office of the City Clerk, in the City Hall, Meridian, Mississippi, up to eight o'clock P. M. on Thursday, September 30, A. D. 1909, said proposals to be addressed to the Mayor and Boards of Councilmen and Aldermen and endorsed "Proposals for Paving Streets."

Bids are invited for doing the entire work of paving, grading, curbing, draining, and furnishing the materials therefor, on and along all the streets and avenues mentioned above, and also separate bids for doing said work and furnishing the materials therefor on and along each separate street and avenue mentioned above, or part thereof; all work to be done according to plans and specifications on file in the office of the City Engineer, City Hall Building, Meridian, Mississippi.

The character of materials to be used in constructing said work will be determined by the Mayor and Boards of Councilmen and Aldermen at the time of opening the bids and awarding the contracts, and bids are invited for the doing of said work with all of the following-named materials, according to said specifications, to wit: Vitified Clay or Shale Blocks, Sheet Asphalt, Imperial Macadam, Crossed Wood Block, Bitulithic and Granitoid Pavement.

The entire work consists of approximately 112,000 square yards of pavement and approximately 17,000 linear feet of concrete or granite curb.

Specifications and blank forms of proposals can be had of W. G. Wetmore, City Engineer.

Each bidder must deposit with his bid or bids a certified check for ten thousand dollars on some solvent bank of Meridian, Mississippi.

The Boards reserve the right to reject any and all bids or to award the contract either as a whole or for each separate street or avenue or part thereof, as they may deem best.

Done by order of the Mayor and Boards of Councilmen and Aldermen this 23d day of September, 1909.

C. W. O'LEARY,
City Clerk.

Paving Bids Wanted

Sealed bids in duplicate to pave, curb and gutter the sidewalks on Eustis street from its intersection with the Public Square to its intersection with California avenue, in accordance with Improvement Ordinance No. 21 and the specifications, etc., providing for the same on file in the City Clerk's office. Specifications furnished on request. Bids to be delivered to the Mayor on or before October 19, 1909, at noon. Right to reject all bids reserved. Two-hundred-dollar certified check, payable to City of Huntsville, to accompany bid.

THOMAS W. SMITH, Mayor,
Huntsville, Ala.

Paving

Sealed proposals will be received by the City Clerk of the City of Ashland, Kentucky, up to 7 o'clock P. M. Tuesday, September 28, 1909, for the furnishing of all materials for the construction of vitrified-brick pavement with concrete curb and gutter and header for same, as per plans and specifications approved by the City Council of the City of Ashland, Kentucky, and on file in the office of the City Engineer.

The approximate quantities are:
44,860 square yards of paving,
24,490 linear feet combined curb and gutter and necessary catch-basins for same,
4000 linear feet for concrete header.

A certified check on a national bank, payable to L. R. Putnam, City Treasurer, for the sum of one thousand (\$1000) dollars, must accompany each proposal. The right is reserved to reject any and all bids.

Marks, Bids for Contracts N. O. & Q.
Address same to E. A. Shepard, City Clerk of the City of Ashland, Kentucky.
J. O. MATHEWSON, Mayor,
E. A. SHEPARD, Clerk,
L. R. PUTNAM, Treasurer.

Bids for Paving and Curbing

Wanted—Sealed bids in duplicate to pave, curb and otherwise improve Holmes street from its intersection with the west property line of Pulaski street, road or pike, to its intersection with the east property line of Pratt avenue and 5th street, in the city of Huntsville, in Madison county, Alabama, including its intersections, except the Washington street and Jefferson street intersections (being about 40,000 square yards of pavement and about 14,000 feet of curb and gutter), in accordance with Improvement Ordinance No. 23, and the specifications, plans, surveys and grade for the same on file in the office of the Street Superintendent of the City of Huntsville. Specifications, plans, etc., furnished on request. Bids to be delivered to the Mayor on or before October 5, 1909, at 12 o'clock noon. Bids on the following materials will be received, namely: Mineral Rubber Asphalt, Sheet Asphalt with Binder Coat, Sheet Asphalt with Binder Course, Bitulithic, Wooden Block, Vitrified Brick and Blome Granitoid Cement Pavement. Right to reject all bids reserved. \$3000 certified check, payable to the city of Huntsville, to accompany each bid.
THOS. W. SMITH, Mayor.

PUBLIC BUILDING

Notice to Contractors and Jail Builders

The County Court of Randolph county, West Virginia, will receive competitive plans and specifications for a new Jail Building and Jailers' Residence on Tuesday, October 12, 1909.

The building is to be fireproof and to provide for 48 prisoners, and the cost is not to exceed thirty thousand dollars (\$30,000).

Full information will be furnished by applying to the undersigned.

S. A. ROWAN,
Clerk of County Court,
Elkins, W. Va.

State School of Mines and Metallurgy

WILBURTON, OKLA.

The State Board of Public Affairs will receive sealed proposals until twelve o'clock noon September 29, 1909, for the erection and completion of the Ore Dressing and Metallurgy Building complete, and for the ground or basement story of the main Lecture and Laboratory Building of the School of Mines and Metallurgy in the State of Oklahoma, to be built at Wilburton, Oklahoma, in strict accordance with the plans, specifications and details as furnished by Howe & Holt, architects, Kansas City, Mo., to be erected under the supervision of the State Board of Public Affairs, conforming to the conditions of addenda to specifications and modification of the plans, as well as the terms of proposal and contract.

Plans and specifications may be seen at the office of the President, Dr. Geo. E. Ladd, Wilburton; the office of the State Board of Public Affairs; the office of the Architect of the State Board of Public Affairs at Guthrie, and the office of Howe & Holt, Kansas City, Mo.

All proposals shall be submitted on each building separately and in duplicate on forms furnished to actual bidders by the Architect for the State Board of Public Affairs, and no proposal submitted other than on this form will have consideration.

A certified check equal to five per cent. of the total amount of highest proposal submitted by bidder shall accompany such proposal, and shall be made payable to the Chairman of the State Board of Public Affairs, to guarantee the Board that the bidder to whom the work is awarded will comply with all requirements exacted under the terms of the proposal and specifications, and will within the time specified enter into a valid and satisfactory contract and furnish and file an acceptable bond with the Board to guarantee the full and faithful performance of the contract.

Bidder shall furnish plans for fireproof system and file with the Board's Architect five days prior to date set for opening bids to allow ample time for checking and approval of same.

All floor construction, etc., shall have the capacity as required by specifications or approved by the Architect.

The State Board of Public Affairs reserves the right to reject any or all proposals submitted or to accept any proposition or combination of propositions if such appear to the best interest of the State. Any prospective bidder desiring the exclusive use of plans and specifications for this work will apply to the Architects in Kansas City for terms, etc.

All proposals shall be enclosed in sealed envelope and marked "Bid for State School of Mines and Metallurgy," and addressed to "Victor E. Harlow, Secretary, Guthrie, Oklahoma."

ROY HOFFMAN, Chairman,
VICTOR E. HARLOW, Secretary,
P. H. WEATHERS, Architect S. B. P. A.

MISCELLANEOUS

Notice to Contractors

Monticello, Lawrence County, Miss.,

September 8, 1909.

Notice is hereby given that the contract to build a steel bridge across Bahala Creek, on Jackson road, 13 miles northwest of Monticello, Miss.:

And the contract to build steel approaches to the steel bridge now across Pearl River at Monticello, Miss.:

Also the contract to build a steel bridge across Hall's Creek, on Holmesville road, 1½ miles south of Monticello, Miss., will be let at public outcry to the lowest responsible bidder, at the courthouse door in the town of Monticello, Miss., on Monday, the 14th day of October next. Plans and specifications for all on file with clerk of Board of Supervisors. Certified check in each case for 10 per cent. of contract price required from the successful bidders. The Board reserves the right to reject any and all bids.

W. H. SPEIGHTS,
Clerk Board Supervisors.

Railroad Work

ATLANTIC COAST LINE RAILROAD CO.,
Wilmington, N. C., September 2, 1909.

Sealed proposals will be received by the undersigned until noon September 23, 1909, for grading, concrete, tracklaying, etc., in connection with grade and line revision of the Wadesboro Branch of the Atlantic Coast Line Railroad between Florence, S. C., and Wadesboro, N. C.

The work will consist of the following estimated approximate quantities:

Excavation, 1,100,000 cubic yards.
Concrete, 14,000 cubic yards.

Tracklaying, 15 miles.

Profiles, plans and specifications can be seen and information obtained by application to the Division Engineer at Florence, S. C.; the Resident Engineers at Cheraw, S. C.; Morven, N. C.; or at office of Chief Engineer, Wilmington, N. C.

The work will be let either as a whole or in part.

The right is reserved to reject any or all bids.

E. B. PLEASANTS,
Chief Engineer,
Atlantic Coast Line R. R. Co.,
Wilmington, N. C.

Proposal for Water-Works System

MARIETTA, GA.

Sealed proposals will be received by the Board of Water Commissioners of the City of Marietta, Ga., until 7 P. M. Tuesday, October 5, 1909, for furnishing all materials, machinery, and constructing a system of water-works in and for the city of Marietta, Ga.

The water-works system will embrace approximately 1400 tons of cast-iron pipe from 4" to 14"; 67 valves, boxes, etc.; 122 hydrants, 1 40" diameter and 50" high reinforced concrete or steel standpipe, 1,000,000-gallon compound pumping engine, 1,500,000-gallon 2-stage centrifugal pump with 100 H. P. motor, 1 1,000,000 centrifugal pump with 75 H. P. motor, 1 150 K. W. generator direct connected to Corlies or 4-valve engine, with switchboard, exciter, etc.; 2 68x18 boilers, with heater and feed pump, cross flue and stack; 1 brick building, 2 500,000 reinforced concrete filters, 1 reinforced concrete clear-water basin, 1 reinforced concrete coagulation basin, 1 5,000,000-gallon storage basin, 1 2,000,000 storage basin, small concrete and earth dam with 5000' of 15" terra cotta gravity line.

Plans may be seen at the office of the City Clerk or the engineers, and copies of the specifications, forms, etc., may be obtained from the engineers or City Clerk. The right is reserved to reject any or all bids.

DR. S. D. RAMBO,
Chairman Board of Water Commissioners,
J. B. MCCRARY & CO., Engineers,
1301-2 Empire Bldg., Atlanta, Ga.

Bargains in Machinery and Supplies

Engines, Etc., For Sale

One Engine 10"x42" Hardie-Tynes, Corliss.
One Engine 11"x16" Atlas, Automatic.
One Engine 25 Horse-power, Plain Slide Valve.
One Engine 15 Horse-power, Upright.
One Engine 10 Horse-power, Upright.
One Engine 3 Horse-power, Upright.
One Boiler 54"x12", Horizontal Return Tubular.
One Boiler 10 Horse-power, Horizontal Return Tubular.

One Pump, Smith-Valle Boiler Feed, 4 1/2".
One Pump, Dean, 9"x10"x1".
Two Moffatt's Combined Pump and Heaters, 100 Horse-power.
One 50-light G. E. Dynamo.
Three 70-Saw Mungor Cotton Gins with Feeders.
Two Wood Splitters.
One Knight Pony Sawmill.

FOR PARTICULARS ADDRESS

Russell-Compton Co.

Spartanburg, S. C.

CULVERTS

We have on hand for immediate shipment a large stock of second-hand Steel Culverts, also new and second-hand I Beams, Channels, Angles, and Columns which we cut and drill to diagram, Boiler Flues, Shafting, Hangers, Pulleys and Brass Goods.

JOS. GREENSPON & SON PIPE & SUPPLY CO.,

Broadway and Mullanphy, St. Louis, Mo.

DIRECT CONNECTED SETS FOR SALE

1 30 K. W. 125-volt Fort Wayne Generator, connected to a Wright automatic engine.
1 75 K. W. 125-volt Thompson-Ryan Generator, connected to a McEwen automatic engine.

GEORGE SACHSENMAIER,
1309 Race St., Philadelphia.

TEST MACHINE FOR SALE

One Ritchie 50,000-lb. tensile test machine in first-class order and equipped with electric poise and autographic device.

THE VANADIUM SALES COMPANY OF AMERICA,
Frick Building, Pittsburgh, Pa.

HOISTS, DRILLS, Etc.

For Sale—1 large Rawson & Morrison Hoist, single drum, 32 H. P. 1 Byers Hoist, 6 H. P. 1 Lidgerwood Hoist, 10 H. P. 1 each Ingersoll and McKiernan Drills. 1 Air Compressor with air tank, complete, built by the Hall Steam Pump Co. of Pittsburgh, Pa.

"CONTRACTOR'S MACHINERY,"
Care Manufacturers' Record, Baltimore, Md.

The Lodge & Shipley Machine Tool Co.

Offer at a Bargain the following Tools, many of which are now in use in their own shops.

LATHES

1 18"x8" five-step cone, quick change, taper.
1 18"x6" quick change, turret on bed, L. & S.
1 24"x12" single-step cone, double back gear, L. & S.
1 30"x10" five-step cone, triple gear, L. & S.
1 No. 1 high speed, 16" bed, L. & S.
1 No. 3 rapid reduction, 8" bed, L. & S.

TURRET CHUCKING LATHES

1 24"x7" five-step cone, power-feed turret, L. & S.
1 30"x8" four-step cone, power-feed turret, L. & S.

PLANERS

1 36"x26"x26" four-head, Sellers.
1 36"x36"x24" double-head, Pond.
1 42"x42"x20" single-head, Putnam.

MISCELLANEOUS

1 Andrews Adj. Multiple-Spindle Drill, 11-spindle.
1 No. 4 Brown & Sharpe 36" Automatic Gear Cutter.
1 No. 2 Catlin Keyseater.
1 Lincoln type Milling Machine.
1 Hartford Automatic Screw Machine for 3 1/2" stock.
Reeves Countershafts—1 No. 5, 1 No. 6C, 1 No. 4B, 2 A No. 3, 1 C No. 1, 1 No. 4.
CINCINNATI, OHIO

PIPE

We carry the largest stock of second-hand Gas, Steam, Oil and Water Pipe in the West. This Pipe is newly threaded with couplings, and we guarantee every foot to do the same service as new. Let us figure with you before buying, as we can save you from 20% to 50%.

Jos. Greenspon & Son Pipe & Supply Co.
Broadway and Mullanphy St. LOUIS, MO.

300 H. P.

Six 300 H. P. Heine Water-tube Boilers (18 months' service), 185 lbs. pressure; \$1500 each. f. o. b. N. Y.
270 H. P. B. & W. Water-tube, 150 lbs.

ENGINES

13x26x16 Harrisburg Cross Comp. Engine with Condenser.
14x25x16 Ball & Wood Cross Comp. Engine.
15x23x17 Mc.L. & S. Tandem, 150 lbs. pressure.
16x15 Harrisburg 4-valve, heavy duty.

Send for latest "Bargain List."

DUZETS & SON

ELECTRICAL and STEAM MACHINERY
50 Church St. NEW YORK

FOR SALE

One 12x36 Harris Corliss Engine; one 24x48 Corliss Engine; one 14x36 Cooper Corliss Engine; all for immediate shipment; best of condition; prices to suit purchaser.

PRITCHETT MACHINERY CO.,
Greensboro, N. C.

WANTED

Second-hand Leather Belting in good condition, any quantity, for spot cash. Send list and get our cash offer.

LINCOLN BELTING CO.,

753 Lincoln St., Chicago, Ill.

10-Ft. NILES

BORING AND TURNING MILL. Bought new five years ago. Not used for last two years. Condition equal to new. Price, \$4500.

A. D. WHITE MACHINERY CO.
27-29-31 S. Jefferson St. CHICAGO

ENGINES FOR SALE

1 200 H. P. Arm. & Sims Automatic.
1 150 H. P. Phoenix Automatic.
1 60 H. P. Watertown Automatic.
And many others.

THOS. P. CONARD & CO.,
2 South 15th St., Philadelphia.

Corliss Engines in Stock

24x48" Hamilton, heavy duty, dbl. eccentric.
1 24x48" Frick, heavy girder, single eccentric.
1 22x42" Slater, heavy duty, double eccentric.
1 18x42" Hamilton, hvy. duty, dbl. eccentric.
1 18x48" Lane & Bodley, hvy. girder, dbl. eccentric.
1 18x42" Atlas, double eccentric, girder frame.
1 18x30" Atlas, heavy duty, high speed.
1 17x42" Original Brown, girder frame.
1 16x48" Lane & Bodley, girder frame, single eccentric.
1 14x34" Slater, heavy girder, dbl. eccentric.
1 12x36" Lane & Bodley, girder frame, single eccentric.

Throttling and Automatic Engines

1 30x42" New balanced valve Raring, throt.
1 24x30" Bay State, heavy duty, throttling.
1 18x24" H. S. & G., throttling.
1 18x24" Atlas, automatic.
1 17x30" Buckeye, hvy. duty, slide crank, auto.
1 14x22" H. S. & G., slide crank, throttling.
1 13x16" Erie, tangye bed, single valve, auto.
1 14 1/2x18" Heavy Duty Taylor-Beck, auto.
1 12x12" Eagle, slide crank, throttling.
1 11x16" Atlas, slide crank, balanced valve, aut.
1 10x16" H. S. & G., slide crank, self-contained, throttling.

Boilers in Stock

2 300 H. P. B. & W., water tube, plain setting.
2 250 H. P. Sterling, water tube, plain setting.
2 250 H. P. Cahall, vertical, water tube.
2 150 H. P. Abendroth & Root, water tube.
3 72"x20", butt joint and triple riveted, tub.
3 72"x18", butt joint and triple riveted.
5 72"x18", horizontal, double riveted, tubular.
3 66"x20", horizontal, butt joint, strapped and triple riveted.
1 150 H. P., high pressure, locomotive type of firebox boilers.
3 60 H. P. Erie port. firebox boilers on skids.
2 40 H. P. portable firebox boilers on skids.

Pumps in Stock

1 12x20x12x15" Worthington, comp. duplex.
1 16x10x10" L. D. G., duplex.
1 14x8x12" L. D. G., high service water-works pump, duplex.
1 14x8 1/2x10" McGowan, heavy-duty pump, dup.
1 12x7x10" Worthington, duplex.
1 10x7x10" McGowan boiler-feed pump.
1 7x4 1/2x10" McGowan boiler-feed pump.

Norton Machinery Co.
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WIRE ROPE

FOR SALE

Wire Rope and Cable. Second-hand, in excellent condition, suitable for all practical purposes. Sizes 3/8" to 2 1/4" diameter.

Also general assortment of used contractors' machinery.

Marine Metal & Supply Co.

167 South St., N. Y. City

Engine for Sale

1 Atlas slide-valve 16 x 24 engine, 9 ft. flywheel. In fine condition. Will sell at a bargain to quick purchaser, or exchange for a similar H. P. Corliss

WILLMONT OIL MILLS
Pelzer, S. C.

Machine Tools

Pipe and Bolt Cutting Machines

3" Bignall & Keeler, belt driven.
3" Saunders, belt driven.

6" Curtis, hand power.

1" Bolt Cutter.

Nicholson & Waterman 6-Lead Stay Bolt Cutter.

Milling Machines

4 Lincoln, plain.

2 Lincoln, back geared.

1 Garvin, No. 4, plain.

1 Bement, adjustable head.

Boring Mills

7" Sellers, 1 head.

16" Horizontal.

54" "

Hammers

150 lb. Hotchkiss, belt driven.

500-lb. Peck, drop.

600-lb. Merrill, board.

10 O.-b. Dudgeon, steam.

Punches and Presses

No. 310 Wickes Punch, capacity 5 1/2" hole.

24" Pels, shear attachment.

No. 4 Stiles Press.

No. 2 Waterbury Press.

1 Vertical Screw Press.

Miscellaneous

Espan-Lucas cold saw.

Small Table for metal.

Ames Die-sinking Machine.

No. 1 Garvin Profiling Machine.

1 Water Emery Grinder.

1 Iroquois Universal Grinder.

No. 12 Garvin Wire Feed Screw Machine.

Everything Refitted and Ready for Immediate Shipment

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Cleaning and Polishing Castings

Mounted on iron base.

WE WILL SELL AT A BARGAIN.

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Dealers in Equipment for Foundries and Contractors.

REAL BARGAINS

Notes Corliss engine, 16x36. Triple riveted boiler, 12x18. Heater and duplex pump. A. B. C. heating apparatus. 8-ft. fan with engine attached. 4000 ft. pipe in coils.
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1 10-foot Berlin Glue Jointer

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6', 8', 10' and 18' Bending Rolls.
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For Sale at Second-Hand Prices

Brand New, 220-Volt D.C. Multipolar Motors,
Complete with Base or Rails, Standard Pulley
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No. H.P.	Make.	Speed.
20 2	Watson M. P. Shunt.....	1200
7 2	National " ".....	1000
10 5	National " ".....	950
10 7 1/2	National " Shunt.....	900
5 7 1/2	National " Comp.....	900
10 10	National " Shunt.....	800
4 10	National " Comp.....	800
10 15	National " Shunt.....	725
1 15	National " Comp.....	725
10 20	National " Shunt.....	625
1 20	National " Comp.....	625
4 30	National " Shunt.....	575

Above Motors can be shipped from our stock at St. Louis or Chicago at the same price. We are willing to ship any motor in our stock on 30 days' approval to responsible parties. Send for our Monthly Bargain Sheet showing complete stock with net prices. Motors rented. Motors sold on monthly installments.

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The Pioneer Electrical Bargain House

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Corliss Automatic and Slide Valve.

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One Deane Triple-Expansion Steam Pump, capacity 1,500,000 gals.
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Combined capacity of pumps, 3,000,000 gallons per 24 hours under a water pressure of 198 pounds. All pumps in good condition. For full particulars apply to Wm. Francis, Water Superintendent, Asheville, N. C.
Pumps will be sold at a great sacrifice.

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Direct Connected Engine
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1 150 K. W. Northern 125-volt direct-current generator, direct connected to 16"x16" Ames automatic engine, complete with cable, switchboard and instruments. Practically new.

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Write for other bargains in Steam or Electric Machinery; also state what you have for sale.

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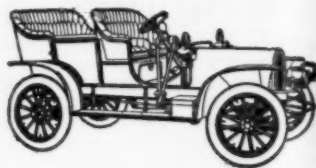
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CORLISS ENGINES (Heavy Duty)—18x36 Ohio, left hand; 22x48 Allis, right hand; 24x30 Clark; 24x48 Hamilton.

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